

bernice
summerfield

NEW
WORLDS



GENIUS LOCI



ben aaronovitch

BIG
FINISH

GENIUS LOCI

A Novel by
Ben Aaronovitch

One day she will bring down empires and decide the fate of the universe. One day she will be feared by the creatures of evil and revered wherever people have had just a little bit too much to drink.

But all that is yet to come...

Right now Bernice Summerfield is 21 years old and living hand to mouth and drink to drink. Offered a job beyond her qualifications she is lured out to the backwater planet of Jaiwan where nothing has ever happened – ever.

There she joins a disparate team of archaeologists who have just discovered that the planet of Jaiwan may have been just a tad more interesting than people thought. This could be Benny's big break and her ticket to a proper career in archaeology.

That's if archaeology doesn't kill her first.

Ben Aaronovitch wrote two Doctor Who serials in the late 1980s – Remembrance of the Daleks and Battlefield. He has contributed to Virgin Publishing's range of Doctor Who novels and Big Finish's range of Bernice Summerfield and Short Trips short-story anthologies.

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Genius loci [jee-nee-us loh-see]

Latin (archaic Terran): genius loci: genius, spirit + loci, genitive sing, of locus, place.

1. (proper noun) the brand name of a matter compiler franchise (twenty-fourth C).
2. (noun) a heuristic educational programme used primarily in museums (twenty-third C).
3. (noun) the distinctive atmosphere or pervading spirit of a place (twentieth C)
4. (noun) the guardian spirit or deity of a place or location (nineteenth C).

Part One

Initial Survey

Before you start to excavate it is important to first locate the actual archaeology. Otherwise, what's the point?

Archaeology for Primates, Martian University Press (2534)

01: Bread and Vodka

‘They set a post-hound on Benny’s trail on Tallyrand, slotted it to her biometrics and the colour of her hair. It caught up with her at the Calliastra Highport and came scrambling for her obsolete PDA through a forest of spam and urgent credit notices. Its core was a job offer wrapped around a contract and a conditional credit chip.

Benny didn’t stand a chance. The last thing she remembered of that night was using the chip to set up a tab behind the bar at the Calliastra Hilton.

Benny’s agent was a pirate knock-off of a famous AI out of Saigon. It barely ran on the Hilton’s clockwork mainframe and manifested itself as a fierce little Vietnamese woman with bad teeth. The agent clucked and sniffed with disapproval at the terms of the deal, but the position offered was assistant field director – not a job Benny was really qualified for. The actual negotiation was conducted in machine code and was over in less than a second. The next morning, Benny took her hangover down to the docks and booked passage on a free trader. The ship’s name was the Lazy Dog.

It took the Lazy Dog three weeks to pick its way across the Coalsack.

Benny traded her last three kilos of Arabica beans for a stash of entertainment cubes of dubious legality. She traded them for ten times their value at an excitement-starved mining base and blew the lot on a special purchase at the Dogtown market on the First and Last. The gift wrapping was silver and blue.

She spent the rest of the three weeks in the Lazy Dog’s mess – slinging krill.

Part CO2 scrubber, part additional protein source, it grew in tanks as an element of the life support. It was highly nutritious and deeply tasteless – if you had the knack of making it palatable you could travel across the galaxy for free. During her breaks, she read archaeological textbooks and classic literature from the twenty-third century. At ship-night she was lulled to sleep by the gurgling of the number four trim pipe which ran beside her rack. She woke to the captain’s latest favourite pop hit and another day slinging krill.

And one morning she stepped out of the dorsal airlock onto an expanse of sun-bleached ferroconcrete. There were palm trees on the far edge of the landing pads and a swift breeze that smelt of the sea. ‘Good luck,’ said the captain. ‘You’ve arrived.’

She was there. But where was that? After the system’s statistics, the planet merited a two-line entry in the Transcoalsack gazetteer.

As good a place as any to stay over when travelling on – has some good beaches, decent cuisine, but no night life whatsoever.

She hitched up her carryall and walked in the direction of some low, whitewashed buildings that she hoped were immigration and customs. On the way, she was picked up by a robotic baggage truck, which insisted on going out of its way and dropping her in front of the main terminal. She strode into the air-conditioned gloom and handed her passport to the middle-aged lady in blue and white behind the desk. The lady waved the passport through the reader and Benny felt sweat pricking out all over her body. The general consensus on fake passports was that it was better to move outwards, away from Earth and the heartlands of mankind. Out on the fringes, where the communication lag was measured in months, your suspiciously clean passport could safely pick up kosher visa stamps and valid travel permits.

The theory was that once the passport had accumulated a certain bureaucratic critical mass it would cease – in information theory terms – to be fake. Benny had once read a very convincing monogram on the subject and had clocked up at least 43 jumps on the same passport, and had never been so much as delayed at immigration.

And yet she always sweated.

Name, Bernice Summerfield; age, 21; profession, freelance archaeologist.

Just about everything on the passport was true except for the all-important draft number which ended in a TMF suffix – psychologically unfit for duty.

The famous Too Mad to Fight exemption.

The immigration lady handed back her passport and gave her a grin.

‘Welcome to Jaiwan,’ she said.

The arrivals lounge was surprisingly big – considering. Old-fashioned, with blue-and-white canvas love seats and tree-sized plants in artificially aged white porcelain basins. Benny could tell it was artificial because the pattern of hairline cracks was too evenly spread to be natural.

Nothing ceramic gets past an archaeologist, thought Benny. Not even the pin-up boy with the hand-lettered sign reading ‘BERNICE SUMMERHEAD’.

She registered youth, brown hair, brown eyes and an attractive heft to his shoulders.

He had the bread and vodka – the plastic shot glass and polythene-wrapped rye roll, which you could buy at every spaceport in human space – that was Russia’s greatest contribution to interstellar

civilisation.

She knocked back the vodka in the approved fashion and bit into the roll.

Then they both stood awkwardly while they waited for the other to demonstrate greeting etiquette. After a moment, he held out his hand and they shook. Thank God, she thought, no hugging or air kissing.

‘Name’s Chayana Lopeti,’ he said. ‘But everyone calls me Chay.’

The vodka was doing its job – her hind brain was coming to accept that it wasn’t on Earth any more and stopped being alienated by the gravity, the atmosphere, the sky colour and the thousands of other subconscious signals that a new planet was giving it.

‘It’s Summerfield,’ she said. The bread was doing its job – which was getting rid of the taste of the vodka.

Chay looked at his sign. ‘Sorry, genuine mistake,’ he said. ‘Not wishful thinking or anything.’

Benny stared at him sourly. ‘I don’t suppose you have another vodka on you.’

Outside, Chay put on a pair of antique multi-function Ray Bans and threw Benny’s carryall into the back seat of a six-wheeled ATV, whose design carried the unmistakable whiff of military specification.

Chay had left the top down and the seats were uncomfortably hot.

‘Sorry about the temperature,’ he said. ‘The EMS is bugged but we’ll be all right once we’re on the fastway.’

Benny watched his hands work the controls as they backed away from the terminal. His watch was a slab of high-impact plastic on a hypoallergenic strap which half hid the barcode tattooed on his forearm. Benny wondered whether it was medical data, an ID number or a fashion statement.

The fastway started at the spaceport’s perimeter gate, three lanes of all-weather permacam that shot off in a straight line to the west. On their left was the usual tangle of warehouses, cheap housing and hotels, and on the right was a brilliant sweep of turquoise ocean.

Traffic was light: a couple of automated juggernauts, a smattering of passenger cars and a pair of teens on an electric lowrider. Chay was obviously under orders to behave, but Benny wasn’t fooled – he was itching to race the kids.

Railway tracks picked them up at the edge of the warehouse district and ran parallel as they ran out of land and shot out over sea. Benny checked the GPS display. Bizarrely, the spaceport was located at the far end of an archipelago; road and rail-link islands hopped towards the mainland.

‘Ribbon development,’ said Chay. ‘It was *the* fashionable development plan when they colonised the planet. To get round the

first city problem.’ That was a classic early colony problem. Naturally, you concentrated your resources, material and human, in one spot on a virgin planet and let the colony grow out from there. The first city, and far too many of them had been called First City expanded in a series of concentric circles – like the rings of a tree. In fact, you could determine the age of the average human colony by counting the rings.

After the First Occupation of Earth, the new buzzword in colonial development became resilience. Cut off from the Earth, most colonies suffered breakdowns of varying degrees of severity; some even failed entirely.

One notorious colony became what the contact team called ‘cannibaltopia’. They had to invent a whole new branch of sociology to explain that one.

A lot of these problems stemmed from having all your eggs in a first-city basket. And they proved amazingly vulnerable to everything from planetoid strikes to political despotism. Benny’s personal favourite was New Atlantis, which, due to an undiscovered tectonic fault, sank into the sea. The irony was probably lost on the inhabitants. New Atlantis – Benny had no sympathy; that was just asking for trouble.

The current strategy was to plant a ring of satellite communities around the initial settlement. Not only did this defuse vital infrastructure nodes but also led to that pinnacle of human habitation – the suburb. Many people emigrated straight from a suburb on Earth to a suburb on a colony, which suited most of them fine. In Benny’s experience less than five per cent of colonists were in it for the adventure and the rest just wanted a bigger back garden.

‘You’ve seen the shape of this continent,’ said Chay. ‘The idea was to build a transport artery diagonally from the far north-east to the south-west corner. Put in two spaceports, one at each end, and let the colony develop along the route.’

‘Well, that explains why the spaceport is stuck all the way out on that island,’ said Benny. ‘Did it work?’

‘Hard to tell. The initial work had all been done when the war broke out and the resources dried up. Apart from your usual drifters and freelance colonists, its all been natural growth since then.’

‘Which war was this – the Dragon War?’

‘No, before that – last century.’

‘Three Empires’ War?’

‘Maybe,’ said Chay, ‘All these wars tend to blur together in my head.’

It took two hours to reach Reconciliation, a regional sub-capital and the place where they left the fastway to head north on Local Two. It

was also, according to Chay, a good place to take a break. Benny didn't argue – riding with the top down had left her feeling sandblasted.

They stopped at a restaurant on the far side of town, somewhere that Chay promised would be a gentle introduction to the local cuisine. A barefoot boy in blue shorts led them to a balcony overlooking the sea, where ranks of tables stood under sailcloth shades – they were the only customers.

Nornbai, explained Chay – a sleep taken after lunch, a local adaptation to Jaiwen's thirty-hour day. There were nornbai huts at regular intervals along the fastway. 'Just in case you want to lie down for a bit,' said Chay and gave her a wicked grin.

The grin was just a tad too calculated for Benny's taste. Was he the breezy, no-hard-feelings type or was she going to be fending him off for the duration? Did she want to fend him off? He was handsome in a bland, out-of-a-catalogue way. Lots of girls she knew wouldn't have hesitated. Jardine would have jumped at a spot of mutual nornbai; she'd have called it 'christening a new planet'. Some people were indiscriminate. Some people had fun.

She sighed and Chay gave her an odd look – obviously not the reaction he was used to. It cheered her up no end.

Lunch arrived with a clatter of porcelain and stainless steel. Chay had a horrific-looking crustacean with at least 16 legs – steamed whole, splayed open and served with a knob of butter. He called it a buttonmonster and said it was a local delicacy. Benny wasn't fooled – she knew macho food when she saw it.

'I'll just bet that's poisonous,' she said.

Chay shook his head and swallowed. 'That would be potfish spider. It has to be prepared properly or...' He drew his thumb across his throat.

'Personally I don't like the taste.'

Benny did like the taste of hers, a very credible gumbo with an unidentifiable pink-brown meat which tasted like crab with a medley of unidentifiable vegetables that tasted of vegetables. The local beer lacked character but it was served cold and by the litre. She wasn't poisoned, she hadn't offended anyone's local customs and her dinner companion hadn't tried to sell her into slavery.

By Benny's standards, this was a good first meal on a planet.

The fastway separated from the railway and skipped from island to island across Nuk Rorng Sound. Benny wondered why the railway didn't stay on the same alignment.

'I thought that was the whole point,' she said.

'That's because of the argument.'

‘The planning departments fell out, right?’

‘Actually,’ said Chay, ‘it was the AIs.’

‘That would be freaky,’ said Benny.

‘It’s worse than that,’ said Chay. ‘You want to hear?’

‘Why not?’

‘It gets smutty.’

‘Just tell the story,’ said Benny.

‘Once they’d built the first spaceport at Anoosarawee,’ said Chay, ‘they shipped in two big AI-controlled building robots. They were so big that they had to ship them in pieces and assemble them on site. Or rather, let them assemble themselves because they were AIs and why buy a robot and Hoover yourself? One was called Pinky and the other Perky...’

‘Did they choose those names themselves?’ asked Benny.

‘Who knows,’ said Chay. ‘But the planners pointed them in the right direction and off they went. Perky building the railway and Pinky laying down permacam – a thousand metres a day. They were completely autonomous, each of them controlling hundreds of ancillary robots for collecting the raw materials.

‘For the first year, they go straight as a laser across the continent. Through forests, over rivers and right through a major mountain range – and I mean right through. One of the longest road tunnels in the history of construction. But the next year, they both started getting creative.’

‘Weren’t they under supervision?’ asked Benny.

‘Well, of course, but it was little things at first, good things in the main. A particularly scenic route across a valley here, an elegant bridge there. Pinky started building picnic spots and off ramps to camping sites and then, two years later, it builds its first town.’

Built, according to Chay, out in the exact geographical centre of a continental desert – probably, the rumour went, because building the road over the actual desert had been so boring. Even though Pinky only built the road network, if you looked at the satellite images you could see what kind of town it was supposed to be. Nice neat grid for downtown shopping, industrial areas off behind a low ridge, gently curving roads and culs-de-sac designed to break up residential areas into pleasantly sized neighbourhoods.

Planners agreed that it looked like a model community – one they would be pleased to live in themselves.

‘Did anyone live there?’

‘No,’ said Chay. ‘It was in the middle of a desert. Besides, that was just the first.’

The next town was just on the other side of the desert where a line of hills created a big enough catchment basin for a pleasant

Mediterranean climate.

While Perky blew past, Pinky veered off course by twenty kilometres and created, again in street plan only, a complete fishing village. The third unauthorised construction was, judging by the street plan, a copy of the long-vanished Disneyworld resort on Mars.

In AI terms, once was cute, twice eccentric and three times a dangerous psychosis. Pinky and Perky were shut down and a machine psychology team sent in. And there they sat for three months while Pinky complained that it was just having fun and Perky complained that it wasn't having any.

'In the end,' said Chay, 'it was just costing too much money to have them idle, so the psychology team crossed their fingers, turned off the inhibitors and away they went.'

'And Pinky started building towns again?' asked Benny.

'Not quite,' said Chay. 'This is where the story really starts.'

The psychology team had told Perky that if it was going to be creative it should keep within certain bounds, and for a couple of hundred kilometres that's what it did. It's speculated that it is during this period that Perky began to complain.

'Perky got jealous,' said Chay. 'Pinky had its creative road plans but all Perky could do was build tracks and the occasional station. So Pinky started to share-function with Perky.'

'No way,' said Benny. AIs didn't share-function with each other. Steal function, usurp function, mug a fellow AI down a dark ally and rifle its pockets for spare function perhaps but share? Just didn't happen.

'And not just mechanical function. They're pretty certain Pinky and Perky exchanged at least some of their actual subroutines. The exchange of which stimulated the behavioural reward functions of their core identity matrix. In other words,' said Chay, 'they got off on it.'

'Are you saying that they were having sex?'

'No,' said Chay. 'They were making lurve, baby. This was no 'wham bam, thank you, 2,000-tonne construction robot' one-night stand – this was full-on to-die-for romantic passion.'

'And you know this... because?'

'They laid out a city together – a beautiful city with a combined transportation hub at its heart with a crystal spire. You can't tell me that isn't romantic.'

'Does anyone live there?'

'Capital of the planet.'

'I think I can guess what happens next,' said Benny.

'They almost made it across the planet,' said Chay. 'But then they split up.'

‘But they got back together,’ said Benny. ‘That’s why the town is called Reconciliation?’

‘No,’ said Chay. ‘They had to shut Pinky down and finish the highway on manual.’

‘So what happened to them – afterwards?’

‘I assume they were disassembled and taken off planet.’

‘That’s a sad story.’

‘Yes, it is,’ said Chay.

‘You’re taking the piss, aren’t you?’

‘Yes, I am.’

They turned onto Local Three at a town so small that Benny’s first inkling that it existed was a sign marked.’

You are now leaving
KONDEEO
Population 345

Obviously, the planned influx of colonists had never happened.

They veered west and left, what Benny was now thinking of as the lovesick railway behind them. The road hopped to another island before a last bridge took them across a narrow straight and plunged them into the tidal forests of the mainland.

God, thought Benny, I hope we’re not digging in this. The road ran on a causeway between dense stands of stumpy red trees with twisting branches that were difficult to distinguish from its roots.

‘Kwumtree,’ said Chay. They grow right along the coast here, major anchor species for the local ecosystem. Potfish – what you had for lunch – grow up attached to the roots. Buttonmonsters, shuttlemouths and helmet crabs – most of the local cuisine is dredged up from around here.’

‘Any species I should be worried about?’

‘Potfish spider,’ said Chay. ‘Lives in abandoned potfish pots and is poisonous.’

‘How poisonous?’

‘Oh, God, I’ve been stung... aghh... croak.’

‘They never tell you these things in the gazette,’ said Benny. ‘Anything else?’

‘Around here – slyfinger, spindly killer fish, razornose, thornytoad,’ said Chay. ‘Most of which don’t really regard humans as edible, but the slyfinger is bad tempered and the thornytoad is too stupid to know you come from an alien ecosystem.’

The elevation rose imperceptibly and the trees thinned out until the road ran along a lightly wooded ridge.

Chay pulled off the road and onto a track that sloped down through

the trees. 'Almost there,' he said.

The ride was pretty smooth: the ATV had adaptive wheels that changed shape to suit the ground conditions. Soon they had left the woods and were looking out over a shallow valley floored with orange-green grass. Chay indicated the other side where stands of tall thin trees clustered on a low ridge. 'The dig's in amongst those trees there,' he said.

Benny frowned. Field archaeology amongst tree roots was always tricky.

Suddenly the ATV slipped sideways and its wheels started to spin. Chay cursed and shifted the drive lever. The wheels stopped spinning and Benny heard the unmistakable whoosh of an impeller starting up behind her. She looked over the side and realised that the grass floor of the valley was illusory. They were traversing a slough, a wide, shallow river or an actively flowing marsh, depending on your perspective. The ATV was running in its amphibious mode.

'Good old army surplus,' said Chay. 'Accept no substitutes.'

'How far,' asked Benny, 'is the dig above the water table?'

'About ninety centimetres,' said Chay with the cheerful air of a man handing a big problem to someone else. 'The highest ground around here is only a metre or two above spring tide.'

'Is this the only way in and out?'

'There's a route on dry land but it loops around to the north-east – this way is quicker.'

It's going to be limestone, thought Benny, weathered into razor-sharp ridges and furrows full of earth and tree roots. It was going to be a bugger to excavate. The archaeology is where you find it, was an oft-repeated aphorism in *Archaeology for Primates*. Along with: absence of evidence is not evidence of absence, and never give a primate an even break.

Chay had to steer between a couple of small islands that barely stood above the level of the slough. They'd have been invisible except that each one bore a single tree, shaped like a gigantic dandelion and coloured a deep orange.

'Seesom fractalis,' said Chay. 'Disco trees. Known to the locals as good-for-nothing trees, which tells you something about their utility. Actually, they hold the islands together and provide habitat for a wide variety of insects – most of which like to bite people.'

'Why not die them back?'

'You can smoke them.'

'Smoke them?'

'Oh, yeah,' said Chay. 'And you thought they were called disco trees because of their shape.'

The ATV's wheels bumped something solid. Chay changed drive

mode and they lurched onto dry land. Benny looked around. It was as she'd feared: a limestone ridge, dotted with tall trees who no doubt pushed tough, knotty, archaeology-destroying roots into the ground.

'Tell me we're not digging in this?'

'The actual site is an alluvial matrix on clay,' said Chay.

'That's got to be atypical,' said Benny. It was an odd kind of soil composition to find on a limestone ridge.

'Not unprecedented, though,' said Chay.

'Any theories?'

'An enormous mud pie – about six hundred metres in diameter – dropping from a height of two kilometres would give a result consistent with what we see on the ground.'

'So no theories.'

'None whatsoever,' said Chay.

Unsurprisingly, given the lovely alluvial soil, there were trees growing all over the site. On Earth you worried about the archaeology being ploughed away. But on a wilderness planet it was always trees. On Mars it was an iron oxide crust that had set like reinforced permacrete; *Archaeology for Primates had three chapters on that – half a page on roots.*

Through the trees, Benny caught a glimpse of a cluster of pneumatic pop tents. The flysheets had an odd pattern of overlapping rectangles in various shades of grey that quite threw Benny until she recognised it as camouflage for urban combat environments.

'Is everything you use military surplus?' she asked.

'Pretty much,' said Chay. 'It's cheap, durable and designed to be used by people stupid enough to enlist in the infantry. Perfectly suited for archaeologists.'

As Chay parked the ATV in a cleared space by the track, a woman came out of the tents and skipped towards them. She was one-86 if she was a centimetre and plump with it. Wide-hipped, narrow-waisted, big-breasted and blonde; she had the round, happy face of a woman who has never, ever, had to purchase a skincare product in her young life. Benny refused to believe that anything that buxom emerged naturally out of the human geneset.

'Hi,' said the woman. 'I'm Heidi.'

Yes, thought Benny, of course you are.

Chay made the introductions. Her full name was Heidi Maputo and she was a field archaeologist – a digger. 'Is the Professor about?' he asked.

'She's in trench one,' said Heidi. 'Do you want me to fetch her?'

'God, no,' said Chay. 'It's always better to view the big beasts in their natural habitat.'

And it is her natural habitat, thought Benny as Professor Mariela

Ankola rose from the trench to greet them. She was a stout woman in her mid-fifties with frizzy brown hair that was streaked with grey and pulled back into a ponytail. She wore a wide-brimmed bush hat, a faded, pink University of Lima T-shirt, khaki trousers and sensible boots. The trousers were reinforced with leather at the knees and pockets. There was dried mud on the knees.

She was everything that Benny had ever wanted in an archaeology professor – so much so that Benny felt suddenly disassociated looking at her, as if any minute she was going to wake up in the sock-smelling darkness of her Tallyrand hostel room or slumped across over the fake walnut bar at the Hilton.

‘Good God,’ said Chay. ‘She has actually been struck dumb by the awe of your presence.’

‘I should bloody well hope so,’ said the Professor. ‘And it’s an example you would all do well to follow.’

There was no little etiquette dance with the Professor – she grabbed Benny’s hand and shook it firmly. Her palm was dry and her fingertips had calluses from using a hand brush. ‘Glad you got here in one piece,’ she said.

‘Want to see my trench?’

Trench one was a rectangle six metres long and two metres wide and, as far as Benny could see, they were already down through the topsoil and onto the archaeology. At each corner was a slim, grey cylinder ten centimetres long – the continuous active recording (CAR) system. A single green LED shone to show it was running.

‘The first significant find was by a local girl – Shawnee, delightful child. She’s always hanging around so you’re bound to meet her.’

Details of the find had come with the job offer, a piece of worked gold massing thirty grams. The shape was smooth and rounded and the curve could have been passed off as natural if it hadn’t been so symmetrical. What it was for was anyone’s guess but that it was an artefact was beyond dispute.

The local girl blogged her find on the planetary net. A computer, with way too much time on its hands, flagged the blog for Jaiwan’s Ministry of Culture, who allocated a budget and put a lobworm out on the interstellar net.

‘Said jobworm found me,’ said the Professor. The only archaeologist with time on her hands this side of the Coalsack. Official Planetary Archaeologist – how could I refuse?’

All it took was a quick field walk to turn up more artefacts – worked flint mostly – and two minutes with a trowel to convince the Professor that here was a major find that indicated a pre-colonial civilisation.

‘That’s the natural,’ The Professor indicated the ruddy soil that filled

most of the trench. There's the cut marking the edge of the pit and lots of lovely cut bones and other rubbish.'

'A midden?' asked Benny.

'Definitely,' said the Professor. A lovely, lovely midden.'

There was a second trench six metres away worked by a solitary digger.

The Professor introduced him as Pilar Hidalgo. Although he was only in his early thirties, Benny saw that he was already cultivating the tanned, weather-beaten and wind-blown look. Firm handshake, guessed Benny, and a manly gaze. She was right about both.

Pilar was the senior field archaeologist and had worked with the Professor for years. Benny couldn't help wondering why he wasn't doing Benny's job.

'Voila,' said the Professor, indicating a tent. Your office and, by happy coincidence, your sleeping quarters. Which should cut down the commute somewhat.'

The tent was tall enough to stand in and had, thank God, a partitioned sleeping chamber. Crates were stacked near the door. There was a memory plastic desk, chair, solar-powered lamp and repeater box. A portable daylight hologram projector was propped uncertainly against the desk. The Professor sat down in the desk chair.

'Pull up a crate,' she said.

Benny noticed that from the open front of the tent you had a good view of trenches one and two.

The Professor pulled a thermos from under the desk and poured them both mugs of red bush tea.

'Let me be frank,' said the Professor. 'I was a little shocked when the post-hound returned with your curriculum vitae. I'm a great admirer of creativity in all things but your CV was truly a masterpiece and so carefully constructed, in particular, to fool the kind of weak artificial intelligence available to a post-hound.'

Benny sipped the awful-tasting bush tea and said nothing.

'How much of it is true?'

'I did work on all those projects and I have completed freelance commissions for the clients that I list as references.'

'And the academic qualifications?'

'Completely bogus.'

'I see,' said the Professor. 'You do realise that somewhere out there is a much better archaeologist than you who never got a chance to do this job.'

'Better qualified, maybe,' said Benny. 'But I can do this job.'

'You had better because we're stuck with you now,' said the Professor, leaning forward. 'I became an archaeologist because I love

to dig. I hate administration. Your job, Bernice, is to make sure I never have to do any paperwork. You do that for me and I will ensure that you never have to lie on your CV ever again. Do we have a deal?’

‘You bet,’ said Bernice.

Stealing the Professor’s PDA proved easier than Benny expected. The old thing was kept in a leather belt holster and, that evening, when they all gathered for a meal to welcome Benny, it ended up draped over the back of a chair. It was a simple matter to palm it, use the serial stripper to rip the access codes, and then slip it back into the holster.

After pudding, the Professor rose and banged her cup with her knife for silence. ‘I’d just like to take this opportunity to welcome Bernice Summerfield, who is here to do what I’ve never been able to...’

‘Hold your drink,’ said Pilar.

‘Get any of you lot to do what I tell you,’ said the Professor.

Chay made a hooting noise and then winced as Heidi kicked him under the table.

‘I rest my case,’ said the Professor. ‘So I propose a toast. To Bernice Summerfield, assistant field director – may the Goddess shine her light upon her in the dark places of the world, speak wisdom to her when all is in chaos and teach forbearance when dealing with archaeologists.’

‘Speech,’ yelled Chay. Heidi echoed him.

Benny stood up.

‘Thank you for making me welcome and I hope I’ll do a good job,’ said Benny and quickly sat down.

‘Oh,’ said Pilar, ‘I like this one.’

Soon after, Benny pleaded an early night and sealed herself up in her tent.

She checked the codes on her PDA and got a network-acknowledgement signal. She had surface access to the Professor’s PDA – now all she needed was a sufficiently advanced cracker to gain entry.

First and Last Chance was the entrepot for the Transcoalsack sector.

Originally built by the Glorious Night Dragon Corporation on the far side of the Coalsack and located under the frozen crust of a small moon of an unremarkable gas giant that orbited a dull M-class star, it served as a refuelling stop for the giant colony ships of the Second Human Diaspora.

Fuelling Station 68 fulfilled its function for thirty years before the conquest of Earth killed humanity’s expansion for half a century.

Even redundant fuelling stations represent a significant capital outlay, so Glorious Night Dragon Corporation carefully mothballed the

plant against a time when humanity was once again resurgent and expansionist. Interstellar corporations by their very nature having two cardinal virtues – optimism and a long view.

Misplaced optimism in the case of Glorious Night Dragon, which went bust five years later. Besides, by the time trade picked up across the Coalsack, technology had moved on. Fusion engines had been superseded by antimatter, which used water as a working fluid rather than monatomic hydrogen. But the location was still good and people will always need something after a long journey – even if it's just other people.

Benny didn't know this Dogtown but she knew the genotype, knew its history back through Tiananmen Square, Camden Lock and the moon fishermen of Saint-Ouen. Knew its evolution all the way back to Baghdad Caravanserai and the slave markets of Jericho. The form changes but the basics remain the same. The intersection of supply and demand, the marketplace where anything could be bought by anybody – providing they had the cash.

Dogtown was located in a cryogenic storage tank, one of four sunk into the permanent icy surface of the moon. A cylinder four hundred metres across and a thousand metres tall, the pioneers that reopened Station 68 had lined the walls with prefabricated apartments bolted onto a frame of low-grade carbon steel. They hung a fusion-powered daymaker from the ceiling and planted every available surface with fast growing vegetation. The result was a room temperature habitat with a pleasantly open feel and hectares of cheap retail and hotel space. And because they were deep space pioneers with a sense of humour they called it the First and Last Chance Gas and Food. Ten years later it was an institution; nobody could imagine that it had never been there.

Three of the tanks stayed respectable and pleasant but Tank Four went bad. The management didn't try to stop it; in fact they helped it along by relocating questionable businesses there. They knew the sociology as well as Benny did. Places like Dogtown were inevitable – the best you could hope for was containment.

And profit, of course – but that went without saying.

There wasn't much light at the bottom levels of Dogtown – the simulated sunlight of the daymaker had to filter down through a mass of gantries, cupolas and basket houses that had been strung across the width of Tank Four. Much of the original plant life had died or been replaced with low-light varieties or modified night bloomers, which explained the scent of jasmine that Benny caught as she stepped out of the lift.

There were the usual joyboys and happy chaps hanging around in

elegantly under-tailored outfits. They gave Benny the once over but lost interest as she walked briskly past. Places like Dogtown were never as dangerous as you thought they were, but walking through one was like being a shark – you had to keep moving or risk drowning. You had to look like you knew what you wanted and had the cash to buy it.

Benny had cash – all that travel allowance saved by slinging krill – and she knew what she needed.

Out of its gift wrapping it looked like an ordinary ROM cartridge for her PDA, one of hundreds that clattered about loose in her carryall's side pockets.

She'd had the usual guilty urge to stuff it into the false lining of her coat but that would have just drawn suspicion. Besides, that pocket was completely full of bootlegged archaeology texts.

The program was pretty illegal and probably overkill for ripping something like the Professor's PDA but Benny had no choice – she had to have both databases.

Every archaeologist worth their salt has two databases; a public one and a secret personal one. The public database is merely a collection of eTextbooks, search indexes, published papers, carbon dating variance curves and remakes of the Indiana Jones movies. It was what you consulted to determine the probable error of a dating sample or watch Orlando Bloom reprise his role as Professor Jones.

The second, secret, database was more important. It contained information on which bars served the best beers on which worlds, what Martian sand smells like when you brush it off your hostility suit and at what times of day the light hits a field at just the right angle to see the ghosts of long-forgotten earthworks. This database contained the fears, thoughts and superstitions. It was as intimate as any diary and about as likely to be banded around in public.

It was – as the Church of the Oncoming Singularity would say – your personal ghost in the machine.

And all Benny needed to do – to own a piece of the Professor's ghost – was to press ENTER on her PDA.

Later Benny was never really able to explain to herself why she didn't do it. She kept the cracker because it had cost money but it went back in amongst the rest of her chips.

Josie was right, she thought later while watching the ripples in the ceiling.

I'm weak and the universe is going to eat me alive.

The solution came to her just before dawn and once she had it Benny could finally drift off to sleep – just in time to be woken up by the alarm.

‘It was on my last dig, which was Calliastra,’ Benny explained. ‘It was a vacuum dig on one of the moons so we had to work in sealed tents. I was contracted to supervise the dirt sifter but they were short of diggers so they asked me to do some digging. Well, I wasn’t going to say no so I joined the digging team but I left my PDA in the sifter tent. Which was a stroke of luck because while I was digging a micrometeorite hit the sifter tent and everything was blown all over the surface – including my PDA. But obviously at first I was just happy that it wasn’t me in there. I wasn’t that worried about my data because my old PDA was a Shap el Morain v3.1 and rated for vacuum exposure. But then there was this solar flare and –’

‘Benny, I’m dying out here – get a move on.’

‘Sorry, Heidi, I’ll be out in a moment.’

‘I hope so. No healthy bowel movement takes that long.’

Benny caught up with the Professor after breakfast, while she was strapping her knee pads on.

‘Give me a hand with these, would you, Bernice?’ she said.

Benny knelt down and helped Velcro the pads into position. A suitably supplicant position, she thought.

‘I’ve lost my databases,’ she said.

‘What – both of them?’ asked the Professor.

‘I’m afraid so.’

‘You poor thing,’ said the Professor. ‘You can’t really do your job without them, you know.’

‘I know.’

‘You’d better have mine,’ said the Professor.

Benny stared at her. ‘Both of them?’

‘You’re going to need both. But anything ‘personal’ you find you keep to yourself.’

‘Of course.’

‘I’ll make up a chip for you this morning.’

‘Thank you, Professor.’

‘Nothing personal – hear?’

‘Nothing personal.’

Benny tugged the pads to ensure they were secure, then she left the tent and walked a little way into the trees so no one would see that she was crying.

02: The Context Horizon

To guard against slyfingers you slept with the tent flaps securely closed.

From inside a tent, dawn arrived as a grey twilight brightening only when the sun rose high enough to top the trees surrounding the site.

The temperature rose with the sun and two hours later the air inside the tent was too hot for sleep. By that time it was 32°C and humid enough to make synthetic cotton stick to your skin like flannel.

But if you slipped outside at dawn the world was cool and moist under a violet sky, the arrowback trees shadowy sentinels in the mist rising from the wetlands beyond the ridge. And just for a moment, as the mist lifted, the marl would catch the sunlight and the razor grass would shine.

Benny knew this because she hadn't been sleeping well.

Still, it was lovely to stand all alone with her coffee and, with everyone else asleep, admit that she had no idea what she was doing.

It also meant she was usually the only one up when Shawnee arrived. In the quiet of the morning it was easy to pick out the distinctive slopslopslop of Shawnee's impeller as she steered her flat-bottomed boat into the inlet that got her within thirty metres of the dig.

Shawnee was a Koontalay, the local ethnic group that lived on the lakes and wetlands south of the dig. By dint of great effort, the Koontalay had managed to make themselves even more obtuse, obstinate and politely inscrutable than the general Jaiwanese population. The sheer effort involved merited admiration but the result was that dealing with Shawnee's family was like having Pooh Bear pull your fingernails out one by one.

She was a lanky little thing of 13 – a collection of skinny arms and legs protruding from multicoloured lycra shorts and, more often than not, one of Chay's cast-off button-down shirts. She habitually wore an orange canvas hat with a ridiculously wide rim, below which her face would peer out – round, brown-skinned and doe-eyed.

Every morning she arrived with a crate full of freshly caught potfish, saltnut, mankyhand leaves, redbottle fruit and wifeslander. Shawnee sold the lot to Benny for about half of what it would cost in Kondeeo or Reconciliation.

Despite that, the girl claimed that she still made a profit but Benny wasn't fooled – she knew an archaeology groupie when she saw one. Occasionally there was a bundle of dried bogmint for tea – spindly thin sticks of it like the fingers of malnourished dead men, tied together with a scrap of lilac cloth – or a litre bottle of insanely potent

blackhandle liquor. Benny kept the blackhandle in her tent for purely medicinal purposes or in case she ever needed to start a fire in a hurry.

Once they'd unloaded the boat, Shawnee would skip over to trench two and wait impatiently for Benny to come over and turn the CAR units on. Then she would jump into her very own 'square', a section of the trench put aside just for her, and start to scrape. Her concentration was total, the tip of her tongue sticking out of her lips as she patiently uncovered rubbish from the dim and distant past.

One day she asked, 'This is a rubbish pit, nah so?'

'A midden,' said Benny.

'And rubbish is good archaeology?'

In the absence of recorded information and short of time travel, the best way to discover what life in the distant past was really like is a midden. A foundation wall can tell you where they lived, grave goods can hint at material status, a fresco on a tomb wall can, usually, tell you what the rulers thought the plebeians should be doing, but nothing opens a window on the past quite like the shit that people throw away.

All the better because it was the things they didn't want other people to find. And what the native Jaiwanese principally seemed to have thrown away was meat.

'One thing's for certain,' said the Professor over post-nornbai coffee. 'They were definitely not vegetarians.'

They'd catalogued over a thousand bone fragments, most with cut marks and other signs of butchery. Chay hadn't managed to retrieve any useable DNA and was having no luck matching them anatomically with local wildlife.

'It's a context problem,' said the Professor. 'This is a sparsely populated planet and we just don't have enough data to reach firm conclusions about anything.'

'We need a proper surveyor,' said Heidi.

'On their way, apparently,' said the Professor.

Their surveyor turned up unexpectedly late the next day. Simone Agani, a spare woman of medium height who said that she'd travelled the 26 kilometres from Kondeeo on foot. 'You don't know geography until you've walked over it,' she explained. Judging from the mud stains on her clothes Simone had walked through quite a lot of it.

'Is there anyone on this dig,' said Heidi as she and Benny helped Simone settle in, 'who isn't exhibiting signs of mental illness?' Benny could see her point: there was an intensity about Simone, she seemed to vibrate like a hydrogen atom.

'Me,' said Chay, 'I'm so normal it makes my teeth ache.'

Heidi gave him a playful smack. 'You're not fooling anyone but yourself.'

Shawnee was fascinated by Simone's skin – which was so blue-black that it seemed to shine.

'My family's originally from Shantak, our sun F6 star,' said Simone. 'It put out a lot of ultraviolet. So my ancestors paid to have all the original colonists genofixed with UV-resistant skin.'

'On you it looks good,' said Chay.

Simone laughed. 'Sorry, Chay, but I do a polar orbit,' she said making a circular motion with her finger. 'If you know what I mean.'

'I am never,' said Chay, 'ever going to get laid in this place.'

'Not until we reach the country of the blind,' said Heidi. But she made the sign of an equatorial orbit – presumably to avoid embarrassment later.

Simone looked at Benny who shrugged.

'I like to stay on the surface,' she said.

'Pervert,' said Chay.

'You've seen the preliminary site report, Simone,' said the Professor. 'What do you think?'

Jaiwan had never had an archaeological survey done and the lack of contextual data was holding the team back. Without a context, archaeological finds and discoveries were just random bits of... stuff. A grain of rice is just a grain of rice until you find it buried in a pot in Mesopotamia and date it to a couple of thousand years before rice cultivation was supposed to get there. Then it becomes evidence of intercontinental trade.

Flakes of flint may lie in a random pattern in the dust. The pattern seems meaningless until someone demonstrates just how flakes fall when you knap out a Neolithic hand axe. Then it becomes evidence of the emergence of *Homo sapiens* in the Rift Valley.

After six hundred years of professional archaeology on Earth there was so much contextual data that you could make your career sitting in a cafe and using your PDA to mine data – searching for misplaced facts and overlooked connections.

But that was Earth – where all you had to deal with was three species and a couple of fairly well-documented alien interventions.

When archaeology moved into interstellar space, the contextual problem became acute. Only an estimated five per cent of archaeological sites in known space were trans-stellar – places where knowledge of a site in one star system had a direct bearing on a site in a different system. About half of those sites belonged to a species that was still extant and many of those had their own archaeologists of whom you could just ask questions. Indeed, the Martians had the best

archaeologists in the galaxy.

But 95 per cent of all archaeological sites were unique to the planet they were found on and each planet was unique in its own way. You could generate a set of statistical probabilities based on data gathered from other worlds – such as the 78 per cent likelihood that a carbon cycle land-based sapient species will develop ceramic technology before bronze working. You could take these probabilities and create a virtual scaffolding that, from a distance, looked like knowledge. But if you put your weight on it...

The Jaiwanese worked metal and they cut up bones, according to Pilar who knew a thing or two about stone, with flint knives and that was the sum total of their information to date. It was probable that they were carbon cycle land-based mammals. It was likely that they had ceramics and it was possible that what they were digging in trench one was a midden filled with domestic waste.

Unless it wasn't – in which case they were all bugged.

And so Benny woke up in the morning because Jaiwan was unique and, well, the size of a planet and she had no idea how to expand their context horizon on the budget she was currently working with.

Of course, you could never truly solve the context problem – to do that would result in your context horizon being contiguous with the boundaries of the universe. And then, as the Professor would say, one would be with the Goddess and have no further worries at all.

For historical reasons, Jaiwan had a ten-day week and the team got the last two days off. The Professor and Pilar headed off for the wild and debauched tea shops of Kondeeo with most of the diggers. Simone had already gone.

Gone, claimed Heidi, to commune with the environment and, through a convergence of mystical energy, determine the true ritual purpose of the landscape.

Ritual landscapes being a standard joke amongst archaeologists – just about anything whose exact purpose was unknown tended to be classified as 'ritual'. Odd bits of rock, strange collections of driftwood, buildings of no obvious utility, even whole landscapes, were so classified until such time, if ever, as their true purpose could be divined.

Heidi stayed because she wanted to finish closing up trench two, which had proved barren of finds. Chay stayed because, he said, he'd lost all his cash playing poker with Pilar and Simone.

That afternoon, the usual nornbai rains never materialised – instead clouds began piling up from the east. Chay watched them and shook his head. 'Damn,' he said.

There was a flash and thunder – both closer than Benny had been

expecting.

‘Was this forecasted?’ she asked Chay as they gathered up the gear.

‘No, it bloody well wasn’t,’ he said.

There was another flash, close enough to etch the tree branches in silver and black, and then it began to rain. They ran for shelter in the finds tent and found Heidi trying to coax more heat out of Benny’s coffee warmer.

‘How did it get cold so quickly?’ asked Heidi.

‘That’s why it’s called a cold front,’ said Chay. ‘Up goes the wet air, down comes the rain.’

‘And there was me thinking it was the tears of the Goddess,’ said Heidi.

Shawnee was dancing outside in the rain, hair and shirt plastered to her skin, bare feet slapping the mud. Every new flash of lightning made her shriek with delight.

‘What’s she so cheerful about?’ asked Heidi.

Chay made a sour face. ‘I bet her there wasn’t going to be another tropical storm this side of the dry season. I think there must be something off with my climate model.’

‘What was the bet for?’ asked Benny.

‘I have to be her sex slave for six months.’

‘Chay!’

‘It’s not going to be easy – she’s a very demanding girl.’

‘You had better be joking,’ said Benny.

‘Course I’m joking,’ said Chay. ‘I’d never betray the Professor. I’m a one-woman guy.’

Heidi smacked him on the arm.

‘Still,’ said Chay. ‘She shouldn’t stay out there. Low elevation, tropical storm – if the peninsula had any population at all it would be a statistical hotspot for lightning strikes.’

Heidi called Shawnee, who, surprisingly, meekly obeyed, trotting into the tent and wrapping herself in a space blanket.

‘We’re not in any danger, are we?’ asked Heidi.

‘These tents are rated for thunderstorms,’ said Benny. ‘The groundsheet’s non-conductive and you’re supposed to be able to pitch them under a waterfall.’

‘And the equipment?’

‘It’s all either in the tents or the ATVs – and I backed it up just to be sure.’

‘What about the CAR units?’ asked Heidi.

Benny ran cursing into the storm but it was too late. By the time she got to them, all the continuous active recording units were blown beyond repair.

They had four spare CAR units-enough to keep trench one open but two and three had to be shut down and covered. This meant that both Pilar and Shawnee spent a portion of the next day giving Benny long reproachful looks.

There always seemed to be at least one of them visible all the time. Benny suspected they were coordinating.

Fortunately there was a manufacturing template in the database. She pulled up the peninsula directory and looked for a macrofac. Unfortunately this triggered her messenger service and she found herself talking to a county server.

‘Bernice Summerfield, B.Sc. (unconfirmed), assistant field director Wetland’s Archaeological Project?’

‘That’s me,’ said Benny. The county server was represented by a toon dog with a sausage body and a long sly face. It was probably supposed to be cute, but to Benny it just looked surly and bureaucratic.

‘You are required for human interface with the ecological management board at your earliest convenience.’

‘What the hell for?’ asked Benny. There was no percentage in being polite to machines.

‘Violations in regard of colonial statute regarding commercial exploitation of wilderness areas. Your physical presence is required within 24 hours of notification; failure could result in fines and/or social reconstruction.’

Bring it on, thought Benny.

She took one of the ATVs and put it on autodrive as soon as she hit Local Three. Getting new CAR devices was one thing, but they still had the contextual problem. Chay had already gone through the colonial archive with a nit comb – if there ever were any ice cores taken during the initial colonial survey then the data had been lost since then. Benny had investigated the possibility of a quick lowrent expedition to one of the poles but she couldn’t afford it – even if Simone walked the whole way.

Field walking was a similar problem. A couple of centuries ago, Benny could have called for volunteers and walked grids laid out with nothing more than bits of string and a pocket laser rangefinder. Nowadays, you only got archaeologically valid results if you could later say where each find had been located with pinpoint accuracy. That meant using people who were trained to know the importance of location as well as content.

The thing that was driving Benny insane was the absence of evidence of an indigenous tool-using sapience anywhere else on Jaiwan. It was just possible that a sentient species could have evolved

in one area and then been driven into extinction. There was speculation that homo sapiens were once down to less than ten thousand individuals in the Rift Valley. One good drought and the Earth Reptiles would have been far more cheerful this side of the Pleistocene. Benny wasn't buying – once they evolved, sapient creatures nearly always proved tough and impossible to eradicate. Wasn't the current war all about that?

Absence of evidence is not evidence of absence.

Benny was willing to bet her shower privileges that so far all sweeps through Jaiwan's colonial databases had been by weak AI search programs.

Having a human-directed trawl through the data might just turn up something the machines had overlooked. And keep her underemployed diggers happy until she'd replaced the CARs.

Oh, yeah, thought Benny It's all coming together.

She outlined her plan as the kwumtree stands lapped against the causeway and sent the email off just as Local Three crossed the straits to the archipelago. Benny believed she could hear screams, ever so faint, coming from the direction of the dig – she smiled all the rest of the way into town.

The smile lasted up to the point where Plan A began to fall apart.

Reconciliation only had one Macrofac. It was an old-fashioned kind of place where the feed stock was granulated and hissed overhead in transparent tubes before converging on a universal machine the size of a small tank. The machine had intricate brass-inlaid, carbon-fibre panels with bronze furnishings that dated it to the MorrisMan movement of the last century. Pre-war, when people felt they had the luxury to embellish the utilitarian.

Benny had only ever used branches of the Fast-Fac macrofac franchise before – their slogan was 'Different planet, same standard' – every branch identical to within millimetre tolerances. The adverts claimed that would lend you a laser rangefinder to check.

They were just finishing a production run as Benny arrived, so the manageress ushered her to a seat and brought her cups of instant yellow tea.

The finished articles rolled out of the machine on a conveyer belt like franchised sushi – they were gun-shaped but too flimsy to be a weapon.

Benny asked the manageress what they were.

'Potfish gun,' said the manageress.

The potfish had a symbiotic relationship with the amber kwumtree – the base of their pots secreted an enzyme that combined with the bark of the kwumtree's underwater roots. The bond was so tight that

prising off the pot itself was way too much effort – instead, a potfish fisherman scooped the potfish out with a long potfish ladle.

The spindly killer fish was spindly for exactly the same reason.

The trouble was that the potfish spider made its home in empty potfish pots and stung, paralysed and ate alive anything stupid enough to stick an extremity into the pot. Spindly killer fish, helmet crab or potfish fisherman – it was too stupid to care.

If too many potfish pots in a locality were occupied by potfish spiders then two things would happen: the algae which the potfish ate built up and attacked the kwumtree roots which was bad for the kwumtree; and the potfish spiders, spurred on by hunger, would swarm, which was bad for every living thing within a two-hundred-metre radius.

Which was why every potfish fisherman carried a potfish gun – which both printed the empty shell with a nano-tag and recorded the location of the pot to within one millimetre in three dimensions. The locations were uploaded from the gun to a node, which distributed the data to every other potfish gun.

It wasn't exactly illegal to fish without a potfish gun but the last serious transgressor was, rumour had it, forced by his community to test for the potfish spider swarm he'd created by trailing his leg in the water from a boat.

The manageress told the last part of the tale with much gruesome innuendo.

Benny offered up the CAR template for inspection. The manageress downloaded it into the compiler and checked the preliminary results. And sucked her teeth in the backward whistle that is the sign, from time immemorial, that something expensive is about to happen.

'Can't make this,' said the manageress. 'Sorry.'

'You're a macrofac,' said Benny. 'You're supposed to be able to make anything.'

'No, see,' said the manageress. 'This template is invalid. You run it through the machine and you get something that looks like your device but don't work. This is a waste of time and money, nah so?'

'Nah so,' said Benny. 'You can't fix it?'

'Sorry,' said the manageress. 'Template goes in one side of the machine and stuff comes out the other end. Fix machine, maybe, fix template? Sorry.'

Plan B, thought Benny.

Bernice found herself a nearby cafe and ordered a beer. She put her PDA on the table in front of her, took a gulp of beer and a deep breath, and linked into the net directory. First she looked for freeware sites – where copyright lapsed or free-for-public-use templates were

available – but although there were plenty of sites there were no CAR systems available. Not even systems that might be used as a substitute or as the basis for a patch.

An extraordinarily large number of erotic toys, though.

There was nothing for it but to institute Plan B and find the local licensee of the CAR template itself. Benny finished her first beer and ordered a second.

The licensee was not her favoured option.

Finding Miscellaneous Equipment, the local licensee was easy. There were net contact details but no physical address. That wasn't that unusual; unless you made something, required staff to be in proximity to each other or were just sociable, you didn't need a physical office to do business. In many ways a physical office was a drawback: it cost money and it made it easier for your creditors to send the boys round.

Her PDA matched credentials with ME's interface and after a few moments of machine dialogue the inevitable happened and an entirely synthetic voice asked if it could be of service.

Benny told the voice that she was looking for a manufacturing template for a CAR device. The voice asked Benny if she wanted to browse their extensive range of light manufacturing templates.

'No,' said Benny. 'I want to inquire about the template for the Continuous Active Recording (Field Archaeology) Device version 9.14.'

The voice said that it had failed to recognise the description of the device.

It managed, by some trick of tone or timbre, to make it sound like Benny was to blame for this.

Benny told her PDA to provide the Miscellaneous Engineering with the CAR

template's single identification code. Every manufacturing template, in theory, was issued with a 36-digit alphanumeric, single-identification code so that users could avoid using the wrong template by mistake – in theory.

The ME interface wouldn't accept the PDA input so Benny was forced to key in the code manually.

The interface chimed and showed her the schematic for an environmental-management-control peripheral – suitable for home, office and vehicle applications. Benny keyed in the number two more times and was granted images of a pair of speakers for a home-entertainment peripheral and a machine for stripping the bark off disco trees.

It was only then that Benny pulled the cracker program out of her bag and slotted it into her PDA – she felt she had shown remarkable

restraint. For obscure reasons of tradition, the menu page of the cracker was in Russian and Japanese but the front end of Benny's PDA was equipped to deal with Sanskrit so Kanji and Cyrillic were not a problem.

She touched enter and the cracker ran loose on the net.

And that's the way we do things in the Summerfield household, thought Benny. If the cracker worked as advertised it should breeze through Miscellaneous Engineering's defences and strip out the template without any defences, machine or human, even knowing it was there.

The cafe's air conditioning stopped and the lights went out.

That can't be good, thought Benny. Her PDA showed a 'network unavailable' icon on its screen. Benny carefully slipped the cracker out of its socket and palmed it into her pocket.

The cafe's waitress stepped outside to see what was going on.

Benny entertained an extraordinarily clear fantasy in which ruggedly good-looking network cops, led by a ruthless yet charismatic recovering alcoholic, quickly located the source of the breakdown and set off to bring her to justice and social reconstruction.

In the flicks, if the criminal was suitably good-looking, it was implied that once social reconstruction was complete the charismatic recovering alcoholic would be waiting outside the reconstruction facilities main gate with a bunch of flowers and a whole new future. Thus showing that while crime doesn't pay, taking responsibility for your actions gets you laid.

An emergency response vehicle whirled over head and made Benny jump.

The lights came back on and her PDA chirruped to indicate it had its connection back. Benny was suddenly disappointed, now she had to attend the meeting – she would have preferred the recovering alcoholic, five years in slam and a bunch of flowers.

'We're worried about what you're doing to the water table,' said the county engineer.

Never mind what the water table is doing to us, Benny thought but managed to stop herself from saying. The members of the ecological – management board didn't look like they had a sense of humour.

The board met in a traditional-style, thatched-roof meeting hall just off the main drag in Reconciliation. The wall slats had been taken down to allow the ocean breeze to blow through and keep things comfortable.

Benny assured them that they were taking all precautions to prevent the release of waste, human or industrial, into the local ecosystem.

'What about run-off during periods of heavy precipitation?' asked

the county engineer. He was an old man with a long skinny neck emerging from unexpectedly broad shoulders – it made him look like a turtle.

‘My environmentalist assures me that any run-off would have a negligible effect on the surrounding ecosystems.’

‘We’re not convinced,’ said the turtle. ‘We would like you to cease work and call in an independent third party to make a further impact report.’

This stinks, thought Benny.

She called Chay as soon as she was out of earshot of the board.

‘Did you know the regional net crashed today?’ he asked.

‘No.’

‘You didn’t do something, did you?’

‘Don’t be absurd,’ said Benny. ‘And never mind that, review this and tell me what you think.’ She sent Chay her recording of the board meeting.

‘It’s a shakedown,’ said Chay. ‘Or something. All the arguments are spurious at best – did they ask for money?’

Benny told him about the cease-and-desist order. ‘They’re the ecological-management board for the county – they can enforce this. I’ll have to talk to the Professor.’

‘She isn’t going to like that.’

‘I don’t have any choice,’ said Benny. ‘In the end, she is the field director and the planetary archaeologist – her mandate comes from central government.’

‘Let me discuss it with Heidi,’ said Chay. ‘She might be able to do something.’

What the hell?

‘How come?’ asked Benny.

‘Her family have political connections,’ said Chay. ‘She might be able to get this sorted out through back channels.’

‘Political connections?’

‘You’d be surprised.’

‘Okay,’ said Benny. ‘Talk to Heidi, then – I’ll call back later.’

Benny wondered why on earth Chay was suddenly lying to her.

Before she left for the dig, Benny headed back to the Macrofac and a chat with the manageress. As she’d suspected, the potfish gun hadn’t been designed as such but had been created by selecting options from a so-called generic template. Changing the function was just a matter of choosing different options.

Benny ordered fifty, hopped back into the ATV, put the top down, selected a show tune she’d found on the Professor’s database and headed up Local Three with the sun on her face and *Springtime for*

Hitler on the sound system.

At supper she asked the Professor and Pilar which areas they wanted field walked.

‘Most of this continent,’ said Pilar. ‘Some of the islands, continental shelves...’

‘Don’t be absurd,’ said the Professor. ‘That would be field swimming not walking.’

‘If you could pick a couple of targets close to home,’ said Benny, ‘I might be able to arrange something.’

After supper, Benny went into her tent and initiated Plan C. A direct appeal to the relevant interest groups for a fix to the template. Somewhere out there Benny knew that there would be a talented individual with the correct skill-set who was just sad enough to have a specific interest in complex monitoring equipment to help them. It might be a slim chance but Benny had faith in human nature.

Misplaced faith, it seemed, since nobody so much as pinged the item the next day or the next. It would have made Benny morose if she hadn’t already thought up Plan D.

Plan D involved Chay, Heidi and a bottle of baby oil.

Chay proved unexpectedly stubborn.

‘I’m not taking my top off.’

Benny had chosen the last hour before sunset – the golden hour – to take the pictures. If they didn’t get a move on they were going to lose the light.

‘Do you want to open trench three?’ asked Benny.

Chay straightened up and the camera drone whirled into a new position – adjusting the framing in accordance with what its tiny mind had been programmed to regard as classic composition. Benny had wanted to take the pictures herself but she couldn’t figure out how to get the camera out of automatic mode.

‘And this isn’t even a proper trench,’ said Chay.

‘And you’re not a proper archaeologist,’ said Heidi, sitting back on her heels.

Benny had dug the fake trench north of the site where the arrowbacks and disco trees would form an attractive background to the shoot.

‘Why don’t you take your top off?’ asked Chay.

‘I already offered,’ said Heidi, ‘but Benny said no.’

‘There’s such a thing as gilding the lily,’ said Benny primly – having earlier surreptitiously sprayed Heidi with water to make sure that her khaki T-shirt stuck in all the right places.

‘Take your goddamn shirt off,’ said Heidi. ‘That’s an order.’

Chay sighed and pulled off his T-shirt. Benny could have used him

to teach muscle groups. There was also, on his right shoulder blade, a small tattoo of a man, arms outstretched, surrounded by a circle and a square – Leonardo's Vitruvian Man. No doubt about it: Chay was a bottle boy – one hundred per cent made-to-order.

'Damn,' said Heidi when she saw the tattoo.

'Satisfied?' asked Chay.

'You owe me twenty,' Benny told her.

'Benny said that nothing as hunky as you could possibly be natural,' said Heidi.

'That's funny,' said Chay. 'That's what she said about you.'

'We'd better get a move on,' said Benny. 'Before we lose the light.'

She uploaded the picture to the request package before supper and got four positive responses in time for her nightcap. We're such a predictable species, she thought, as the fixes, most with requests for more pictorial 'updates' attached, downloaded to her PDA. Without a trial run, she couldn't be certain that any of them would work but the public interface at the macrofac didn't reject them out of hand.

With working CAR units they could open up trench three and start getting back on schedule. Bernice climbed into her bed and for the first time in weeks fell immediately into a deep and dreamless sleep.

So deep was it that when Chay and Heidi carried her, mattress and all, out into the slough and left her on a small island, she didn't wake up until the shuttlemouths started nibbling at her toes.

You can walk through a slough – if you're careful and you don't mind getting wet. In fact, as far as anyone could tell, slough walking was Simone's favourite pastime. Benny figured that Heidi and Chay wouldn't have put her anywhere actively dangerous it was just a question of taking the plunge.

Or she could just use her PDA to call Shawnee.

Heidi and Chay arrived at breakfast a few, carefully calculated, minutes apart.

'Sleep well?' Chay asked Benny.

'Like a baby,' said Benny, 'and I have just the job for you two.'

'Oh, yeah?'

'A boat-load of teenagers from the school in Kondee is coming today and I need a couple of bright sparks to teach them the basics of field walking.'

'Amateur field walking,' said Pilar. 'How recherche.'

'Kids?' asked Chay.

'Blessed little bundles of hormone-induced psychosis,' said the Professor.

'What about proper recording procedure?' asked Heidi.

'Got you covered,' said Benny.

‘Hi, kids. Each one of you will have one of these – a field-walking gun. Yes, they’re very similar to potfish guns and they work in almost exactly the same way – which I was just getting to. We’re all going to spread out in a line over here and then we’re all going to walk slowly over there. Now, I want you – as you walk – to look at the ground. If you see something interesting, anything at all, you put the gun against it and pull the trigger. That will mark its location so that later we’ll know where it comes from. Then you pick it up and put it in the bag we’ve given you. Remember, tag it where it lies and then pick it up. You pick up anything that looks interesting and then we’ll sort it out later. Well, obviously not bugs... or worms... or anything that’s alive. Dead bugs? Knock yourself out. Are we ready?’

‘Good work, lots of interesting... things you’ve collected. If you’d like to give your field-walking guns to Chay here. That does look like a flint arrowhead, did you look that up? Something else – where? Why didn’t you pick it up? Too big? Why don’t we just walk back and have a look. Is it here? It looks rather like a rock... Fuck me! Yes, that is a bad word – just don’t tell your teacher I said it. No, I’m not angry. It’s a brilliant find – you were right not to pick it up. Would you do me a favour and run over to Heidi – the woman over there, that’s right – and ask her to come here with a CAR unit and a finds tray? Run, quite fast.’

‘Stuff me sideways into a coffee grinder and call me mocha,’ said Heidi.

‘What is it?’

‘It needs to be cleaned up but it looks like worked metal,’ said Benny.

‘I thought we mag surveyed this area?’

‘We did,’ said Benny. ‘I think this is an aluminium alloy.’

‘Aluminium is an industrial technology – we haven’t seen anything so far that indicates the indigenous sapients ever got that far.’

‘We have now,’ said Benny.

‘I think it must date from the first colonisation,’ said Heidi.

‘You know what the Professor says – just because its recent doesn’t mean it’s not archaeology.’ But Benny didn’t think it was recent.

Cleaning revealed a compact mass of stubby blades arranged around a central axis. It made a good conversation piece at lunch, especially after Chay dated it as ten thousand years old, give or take a thousand.

‘I think it’s a compressor,’ said Pilar, ‘from a jet engine.’

‘It can’t be,’ said Heidi. ‘There’s that metal thing in the middle. Jet engines don’t look like that.’

‘The metal thing is the shaft,’ said Pilar. ‘The blades are attached to it – it’s what they used before they invented magnetic bearings.’

'I always wonder who they were,' said the Professor, 'and why is one of them never around when you need a conceptual breakthrough.'

'They're definitely skiving,' said Heidi.

'Put them on report,' said Simone. She and Heidi found this much funnier than anyone else.

'When I said I wanted to expand the contextual horizon,' the Professor said to Benny, 'I was thinking small baby steps: a hand axe, a bronze or iron tool. I turn my back for a couple of minutes and you give me a dozen centuries of technological development.'

'How accurate is your carbon dating?' asked Simone.

'Well,' said Chay, 'I can date things relative to other things I've dated but without a Jaiwan-specific calibration curve I can't be accurate in absolute terms.'

'Hear that, Benny?' said Simone. 'Man needs a calibration curve.'

'Get me some dendro,' said Benny, 'and I'll give him one.'

There was a sudden silence around the table.

'Oh, for god's sake,' said Benny. 'Those school kids were more mature than you lot.'

The Professor said later that it was one of the most impressive bits of deductive archaeology she had ever seen.

The Professor had sent Pilar to open up some test pits on what they'd all taken to calling the compressor field and asked Benny if she would like to help out in trench one. Benny jumped in and, while the Professor worked on the north long bone, she worked on the south. Chay had used a portable scanner to determine that while they looked remarkably like elephant tusks the long bones were hollow, designed to be strong but lightweight. They had been laid out to form a hoop within which all the cut bones had been found.

'The trouble with this midden,' said Benny, 'is there isn't enough shit in it.'

'Language, Benny,' said the Professor who'd begun a campaign to 'improve' Benny's accent, 'just because one's family is military,' she'd said the night before, 'doesn't mean one is obliged to swear like a trooper.'

'Okay,' said Benny, 'the trouble with this midden is that there isn't enough "waste" in it. All we get are the bones with butcher marks, no broken pots or arrowheads or anything else you would expect to get in a proper midden.'

'Perhaps it's ritual,' said the Professor.

Benny grinned.

'Placed within the long bone like this,' said Benny, 'it is like an offering. Perhaps it is ritual.'

'What kind of ritual?'

‘Presuming the bones are from food animals and the natives weren’t too different from us than perhaps an offering, or a ceremonial feast.’

‘That’s assuming,’ said the Professor, ‘that they are like us mentally. For all we know they could be enormous frog-like things who just liked to stuff themselves.’

‘Oh, my,’ said Benny. ‘Fudge me backwards until I squeak.’

The Professor laughed. ‘What is it?’

‘This is a burial and the bones are part of a food offering.’

‘And the long bones?’

‘They’re part of the creature’s mouth, it had a big mouth with storage pouches and when it was buried they stuffed it with food to sustain it in its journey to the afterlife,’ said Benny.

The Professor stared at her for a moment – at least she didn’t laugh. ‘Okay,’ she said, ‘where do you think the skull will be?’

‘There,’ said Benny, pointing, ‘attached to the wide end of the long bones, just beyond the edge of the trench.’

‘You think so?’

‘Only one way to find out,’ said Benny.

It took them almost no time at all to uncover the skull. If the original trench had been half a metre to the east they would have come down right on it and saved themselves a lot of time.

Everybody came to look.

‘They must have been huge,’ said Heidi.

Chay had been working up some tentative biological models. ‘The size of hippos,’ he said.

‘That’s a big frog,’ said Heidi. ‘You wouldn’t want to share a lily pad with that.’

‘What do we call them?’ asked Simone.

‘Shawnee beasts,’ said Chay.

‘Jaiwan sapiens,’ said Heidi.

‘Giant Wide-Mouthed Frog,’ said Pilar.

‘We can’t call them that,’ said Benny but she knew it was too late.

‘What is the largest sentient land creature?’ asked Heidi.

‘We don’t know it was sentient,’ said Simone. ‘Maybe it was part of a ritual sacrifice and the real sentient is underneath.’

‘Sacred hippo,’ said Chay.

‘No,’ said the Professor, ‘this is the real thing. I can feel it in my waters.’

Pilar nudged Benny. ‘Do you know what you’re looking at?’ he asked.

‘An unprecedented breakthrough in Jaiwanese archaeology?’ she said.

‘Your Masters,’ said Pilar.

‘Never mind her Masters,’ said the Professor. ‘This is a doctorate at the very least.’

‘We need to put in more evaluation trenches and we’ve got to find some way to firm up our dating information,’ said Benny. ‘We ought to get on that right away.’

The Professor put a hand on Benny’s shoulder. ‘The correct procedure in these circumstances is for the field director to open the champagne and for everyone to get really merry.’

‘Don’t you want to know?’ asked Benny. There’s more.’

‘Don’t be in such a hurry,’ she said. ‘None of this is going anywhere – we have all the time in the world.’

03: The Get-a-Life Programme

Pygmalion – Benny had found it in the Professor's database while cruising for some light entertainment. Actually what she'd found was a nineteenth-century musical called *My Fair Lady*, which she thought the George Bernard Shaw play must be based on.

The Professor's database had a lot of material from the twentieth century.

She called it the last Romantic age when the Earth was still diverse and exciting. She said it was a simpler age when the moral choices were clear.

'When we met our first aliens,' said the Professor, 'we had to accept the reality of moral relativism. A Martian is biologically hardwired differently from a human, who is hardwired differently from a Draconian. You can't find a basic moral common ground – only a constantly flexing point of equilibrium.'

It didn't seem to bother the Professor that Benny obviously didn't know what the hell she was talking about. 'So, we have to put up with the Dragons' misogyny because their brains are different?' asked Benny.

'Draconians,' said the Professor, who had a thing about racial nicknames.

'And yes – until you can untangle the differences between social and biological imperatives, you have to take each new culture on its own terms.'

'That's all very well,' said Benny, 'but the next time some Dragon suggests that this female is out of control I'll give him a demonstration of what that term really means.'

'As long as you remember,' said the Professor, 'that dealing with you would be just as hard for the Draconian.'

'That much is certain,' said Benny.

Pygmalion – what Benny suspected the Professor had in mind for her.

I've been thinking about your qualifications,' said the Professor.

'My lack of same,' said Benny.

'I'm a fully accredited itinerant professor, which means I can adjudicate on postgraduate degrees. And since Jaiwan is part of the Transcoalsack Curriculum Association I can, if I so wish, create, administer and lecture on the subject of archaeology, human history and contemporary dance.'

'Contemporary dance?'

'Don't even think about it, Benny,' said the Professor. 'You're far too big to make a decent dancer. You forget I have your database, thought

Benny and made a mental note to look it up. This, she realised, was why you didn't give your personal database to people. If you're prepared to put in the hours, I can put together a credible masters programme.'

'But I don't even have a bachelor's degree,' said Benny.

'What can I say?' said the Professor. 'Entrance standards have been slipping recently.'

'And this would be a valid masters?'

'May the Goddess inflame my corns if I lie,' said the Professor. 'Master of Science (Archaeology), Shawnee College, University of Jaiwan.'

Benny looked away, suddenly fascinated by the stitching on the tent fabric.

'Benny,' said the Professor after a moment.

'No,' said Benny. 'That would be brilliant. Really.'

Officially he was a Probable High Status Xenobatrachia but to everyone at the dig he came to be known as King Froggie. They were two metres down in trench one but you could use the CAR data to reconstruct his position in the ground. He'd been buried on his back, mouth stuffed full of meat and wearing a bronze necklace and leather harness. Benny was very proud of him.

She was also going to use him as the centrepiece for her dissertation. 'Like a site report,' the Professor had said, 'only with less meaning and a larger proportion of pretentious long words.' Hence the terms xenobatrachia, comparative stratigraphy and – Benny's personal favourite – discursive pre-excavation artefact analysis. Pilar had given her the last one – apparently it meant that you had taken the statistical analysis of previous digs into account when doing your site report. Benny planned to use it as much as possible.

They had King Froggie and the artefacts that were clearly associated with him. They also had the small jet engine turbine, if that's what it was, found by the field walkers north of the dig. That had also generated several tray loads of flints, unidentified ceramic chunks and a couple of metal things that Chay was still dating. Thanks to the modified potfish gun Benny could check the distribution of the finds, which seemed to be spread evenly over the search area. So, no obvious clusters to provide targets for further excavation.

Chay had dated King Froggie as eighteen thousand years old and the jet turbine at seven thousand years later, which felt about the right length for that much technological development, but there was no direct evidence of continuity. Without a link between King Froggie and the jet engine they could still be talking about two separate intelligent species.

Especially since Chay's carbon dating still had a two-thousand-year margin of error.

Benny was still pondering the absence of any corroborating evidence of a Froggie civilisation when Simone walked into her tent and dropped a city in her lap.

One of the classic mistakes when coming to a new world was to forget how large and diverse even a marginal Earth-like world can be. There were worlds that were mostly desert or mostly jungle but the rule of thumb was that if you could walk around without a hostility suit then it was going to be damned variable. When Simone discovered a likely archaeological hotspot it could have been on the rolling steppes of Manzinar or the meadowlands of the western coast or even – though this was not Benny's first choice – the big continental desert that nobody had ever bothered coming up with a name for. However, all the above choices would have conflicted with the universal principles laid down by Sir Augustus Sod some time in the early twentieth century.

'Chay,' said Benny, 'there are lots of trees.'

'But it's not humid,' said Chay.

'That's because it's snowing.'

It was, in fact, subarctic boreal forest. All the difficulties of subarctic archaeology plus trees. And insects, if you were digging in the summer. But they weren't – they were digging in the snow.

Simone said she'd coaxed the data out of a routine gravimetric survey conducted by the pre-colonial assessment team. You could, she asserted, refine the data to determine the density of subsurface material. Of course the original survey would have picked up on obvious artificial features such as linears and corners but not the swirls and curves that Simone discovered under the boreal forest. 'A triumph of the human gift for pattern recognition,' said Simone.

Or two hundred years of development in recognition software, thought Benny.

'Yes,' said Chay 'But what the hell do you think it is?'

There was only one way to find out and that meant a chartered VTOL and a three-and-a-half-hour flight due north. The Professor insisted they take Shawnee with them because, said the Professor, she'd never seen snow before. Dressed in one of Simone's spare hostility suits, Shawnee had picked up the mischievous potential of snow with annoying speed.

'Let's find a place to put in a test pit,' said Benny – dodging a snow ball.

'And let's give the honour of first crack at the soil to our youngest member.'

They chose a section of frozen marsh, which caught the edge of one of Simone's features. Marsh because they could dig quickly without worrying too much about destroying any fixed archaeology. Chay slid wire-thin heating elements into the ground and they let it cook for half an hour before taking off the top layer with a mechanical shovel. Benny planted a CAR in each corner and left Shawnee scraping away happily under Chay's supervision while she and Simone picked out a campsite.

Benny found a good location: sheltered but not overhung, generally flat but with a gentle camber for drainage, and even some sturdy branches hanging low enough to hang bear bags from.

Their army surplus tent came as a small but heavy grey canvas tube with a ring pull at one end. Benny placed the cylinder and pulled the ring.

'You're really good at this,' said Simone as they waited for the tent to inflate.

'Thanks,' said Benny.

'You've done the Napoleon,' said Simone. 'Haven't you?'

The Napoleon was an army course which taught self-reliance and wilderness survival. It had been legendary back at Benny's academy – rumour was you could drop a Napoleon graduate on the most marginally Earth-like world, leave them there for six months and come back to find that not only were they alive and well but they would have also formed the locals into a disciplined and efficient guerrilla force.

'I wasn't drafted,' said Benny. 'I have an exemption on mental grounds.'

'Let me guess,' said Simone. 'You're mentally incapable of following orders.'

'There's a lot of it about,' said Benny. 'Anyway, for reasons that I would rather not go into I lived more or less wild for a couple of years.'

'So you were what?' asked Simone. 'A Reversionist.'

Benny laughed – remembering the academy, the woods, the kids that would bring her stuff in return for good advice. 'I am certainly not opposed to the benefits of modern civilisation,' she said.

The tent, which was a lurid orange-brown colour, had inflated properly.

Benny stuck her head in and did the standard check for insect pupae, left-over rubbish and unexpended ordnance. It was no joke: Benny had heard of at least one group of campers who found that their army surplus tent came with an army surplus phosphorous grenade. She set the tent's thermostat and checked that the heating elements were working properly.

She backed out of the tent and sealed it up. Simone had found a suitably dingy dell to build a fire pit, pulling larger logs into a rough circle to give them somewhere to sit. Benny had been sure to bring a packet of firelighters with her. She still remembered how to do the whole moss, kindling, small stick, big stick fire-building routine, but she preferred, whenever possible, to gather a mess of sticks and simply drop the firelighter in the middle. Once she and Simone had an evening's worth of dead wood gathered, they headed back to look for the others.

There was no sign of Shawnee and Chay at the test pit and no response on the coms either. Benny saw Simone reach for a sidearm she wasn't carrying and then look around her with narrowed eyes. 'We're in trouble,' she said.

Benny was just going to ask what kind of trouble when a snowball smacked her in the face.

According to Chay the first test pit had been a bust so they'd moved on and dug a second. This was in a natural hollow levered out of the earth when one of the large trees had fallen over. The root system was surprisingly deep for a boreal species, deep enough to reveal an equally surprisingly thin permafrost layer. This pit had proved more fruitful.

Shawnee proffered a finds tray filled with shards of irregular red-brown pottery. Benny sat down on a tree root and had a good poke around.

'It's different from the finds around the King Froggie site,' said Benny.

'What shall we call it?'

'Who found the first bit?' asked Simone.

'I did,' said Shawnee, who obviously had a shrewd idea about where this was going.

It went into the database as 'FINDS/CERAMIC/SHAWNEE REDWARE'.

And that, thought Benny, is the beauty of digging an archaeologically virgin planet. However, she was saving 'SUMMERFIELD' for something either really spectacular or pervasive.

Benny realised that Chay was staring at her. 'What?'

'I don't want to alarm you,' said Chay, 'but I think you're sitting on a potfish spider.'

Benny jumped so fast she nearly spilt the contents of the find's tray. She turned and stared at the 'root'. Under a lime of frost it was possible to see that the tangle was in fact the thick knuckle-jointed legs so characteristic of Jaiwanese estuarine life.

'That's a potfish spider,' yelled Benny.

'Well, yeah,' said Chay.

'But it's huge.'

'They can grow up to about a sixty kilograms.'

'That's bloody enormous,' said Benny.

'Well, yes,' said Simone. 'That's why people tend to avoid them.'

'So exactly how big is a potfish pot?'

'The biggest I've seen was half a metre wide,' said Chay.

'I thought they were smaller,' said Benny. 'I thought potfish were the size of eels. Now you're telling me I've been eating a mollusc big enough to swallow my head. Why didn't anyone tell me?'

'We thought you knew.'

'I am never,' said Benny, 'putting so much as a toe in the water when we get back to the peninsula.' Benny kicked the frozen potfish spider. 'Hang on. How big did you say potfish spiders grew?'

'Sixty kilograms,' said Chay. 'Why?'

'Because this thing is a hundred kilograms if it's a gram.'

'She's right,' said Simone.

'Chay, you had better record, date and dissect this one.'

'It's a potfish spider,' said Chay.

'What if it's an extinct species of potfish spider,' said Benny, 'that dates back to the time of the Froggies?'

'I'll have to thaw it out first,' said Chay.

'Just as long as you do it downwind.'

'You think you're so clever,' said Chay after he'd recorded the potfish spider.

'It was old – right?' Benny was cooking supper over an open fire. Simone had camping skills but Chay was proving to be a city boy to the core.

'Between ten and 11 thousand years, but I'm betting towards the early end of that – definitely late aluminium-age Froggie,' said Chay. 'Anatomically, it's identical to the peninsula spiders except bigger and with a larger brain.'

'What did it die of?' asked Benny.

'Froze to death.'

'There's a shock.'

'And it should be a shock because I had a look at the diatoms from the same strata and they are all temperate varieties.'

'So, the whole planet used to be warmer,' said Benny.

'And then it got colder,' said Chay. 'Very quickly.'

Benny dug one of the blueyams out from the embers, peeled back the silver foil and poked it with her knife to see if it was done.

'How quickly?' asked Simone as she unshipped the plates.

'Rapid climate change can occur for a number of reasons and over a

variety of time scales,' said Chay. 'Judging from the diatom evidence and the stratigraphy this was extremely rapid.'

'Centuries?' asked Simone. 'Decades, years...?'

'Days,' said Chay. 'But I can't prove it.'

'An impact event?' asked Benny.

'Why does everyone always think planetoids?' asked Chay. 'There are lots of way to mess up the climate and most don't involve big chunks of rock.'

'Days,' said Simone.

'I can't prove that,' said Chay. 'It could have been hibernating and then pulled out of its burrow by a ground disturbance.'

'Potfish spiders hibernate?' asked Shawnee.

'The species that live in temperate biomes do,' said Chay.

'I thought they were just a peninsula thing,' said Benny. She'd cut the blueyams half open. 'Fetch the butter, Shawnee.'

Shawnee got the butter from the bear bag. It was frozen solid but Benny found she could shave off strips to shove inside the blueyams. The skins were perfectly dark and crispy, which wasn't bad for campfire cooking. With a pinch of salt and some melted butter it almost made you glad you were freezing to death.

The next day they extended the test pit to a fully blown trench. There was a nicely defined earthwork feature at one end and the clear line of a ditch running across the middle – the ditch was full of pottery and their first metal find.

'Arrow head,' said Benny.

'It's a funny shape,' said Simone.

'Ah, ha,' said Benny. 'This is where the natural superiority of the field archaeologist comes into play. Look at the square cross-section – this is a bodkin point. Armour piercing.'

'Could be a very small spear point?' said Simone 'Did I tell you to stop digging? Back to work scum.'

By the end of the week they'd dug and recorded three trenches and 15 additional test pits. They had accumulated a stack of finds trays two metres high and had run out of butter. It was time to go home.

Benny had ventured a tentative chronological sequence and had ported it to the Professor to have a look at. While they waited in the morning for the VTOL to pick them up, Chay taught Shawnee how to make a proper snowman.

'In the dark days before nuclear power and spaceflight,' Chay told Shawnee, 'mankind fought terrible wars.'

'Who did they fight?' asked Shawnee

'They fought each other,' said Chay.

'Why?'

‘Because there was nobody else to fight,’ said Chay. ‘I would have thought that was obvious. And the worst war of all was the twentieth century, which lasted from 1904 to 1999 and was mostly Russia against everyone else in the world.’

‘Why?’ asked Heidi.

‘Don’t you start,’ said Chay. ‘But this isn’t about Russia; this is about China, where one winter in 1999 the people gathered to protest against the evil Emperor Zurg.’

Benny gritted her teeth.

‘And as part of their protest they built an enormous snowman in Tasmania Square.’

‘It wasn’t a snowman,’ said Heidi. ‘It was a statue of the goddess of democracy.’

‘Is that the goddess the Professor talks about?’ asked Shawnee.

Heidi looked at Benny who shrugged.

‘Maybe,’ said Heidi.

‘So what happened to the protestors?’ asked Shawnee.

‘There was this wall,’ said Benny.

‘The Great Wall of China,’ said Chay helpfully. Benny glared at him.

‘And all the students climbed on top of it and smashed it down with sledgehammers,’ she said.

‘Why?’

‘Because it was a very bad wall,’ said Benny, wondering what she was going to say if Shawnee asked her why it was a bad wall.

‘Were any of them archaeologists?’ asked Shawnee.

‘Any of who?’ asked Benny.

‘You said that the students climbed on the wall,’ said Shawnee.

‘Were any of them archaeology students?’

‘I suppose some of them might have been,’ said Benny.

‘Do you think they recorded the wall before they knocked it down?’

‘I’m pretty certain they did,’ said Benny. She stared at Chay, who was trying not to laugh. ‘Otherwise we wouldn’t have such a good historical record of what happened.’

‘Oh, look,’ said Chay. ‘The jet.’

Jaiwanese Timeline: B. Summerfield

Bronze age:

Peninsula site/King Froggie

Radiodate -18,000 std. years + / - 2,000

Iron Age:

Taiga earthworks

Iron tools/weapons?

Shawnee red-ware

Radiodate – 15,000 std. years + / – 2,000

And then...

Aluminium/Industrial Age

Peninsula site/field walking (see refs) Solid Core Compressor?

Radiodate – 11,000 std. years + /-2,000

A 4,000-year gap. Which was still a lot of civilisation to be missing.

‘I have some good news,’ said Chay one morning. ‘And I have some bad news.’

‘What’s the good news?’ asked the Professor.

‘I have finished my biological reconstruction of King Froggie.’

‘What’s the bad news?’ asked Pilar.

‘He’s not a member of a sapient species,’ said Chay.

‘Oh, bum,’ said Heidi.

‘Item one: the brain. Extrapolating from the shape of the cranium and from tissue-evaporation analysis –’

‘What the hell is that?’ asked Pilar.

‘When the soft tissue decays away, it leaves a molecular trace on the inside of the skull,’ said Benny. ‘With the right statistical model you can use it to recreate the shape of the soft tissue – in this case, the brain.’

‘I wish I hadn’t asked,’ said Pilar. ‘How valid are the results?’

‘From my double-and triple-checked results, and confident in the fact that the Martians have signed off on this technique –’

‘Oh, well, if the Ice Warriors say it’s okay...’

‘Shut up, Pilar,’ said the Professor.

‘... it had a central nervous system like a cephalopod, with two parallel nerve chords terminating in a cluster centred on but not confined to the skull. It’s likely that three eye stalks, each with their own imaging clusters, extended out through the sockets at the front of the skull but I can’t say for sure because nothing with the same body plan has been found on Jaiwan. Overall, the brain-to-mass ratio is low, which is contra-indicative of sapience and structurally the A/S ratio is also skewed towards the non-sentient as well.’

‘Brain size and speculative structural reconstruction do not a dimwit make,’ said Heidi.

‘You were rehearsing that,’ said Benny.

‘Was not.’

‘Heidi’s right,’ said Chay.

‘Of course,’ said Heidi.

‘If it was just the brain I would say there was some doubt, but unfortunately the clincher is King Froggie’s hands,’ said Chay. ‘Analysis of the tool marks on his harness and the worked metal

necklace indicate that the work is too fine to have been carried out by what are, in the final analysis, a pair of adapted flippers.'

'So what do you think he is?' asked the Professor.

'I think he's a domesticated or trained animal,' said Chay.

'That's an elaborate burial for a beast,' said Heidi.

'Not necessarily,' said Pilar. 'The divine bulls of post-xenocratic Memphis were sacrificed, embalmed and entombed with elaborate ceremony and grave goods.'

'See,' said Chay.

'Oh,' said Heidi. 'The ritual of the sacred bull.'

'Could King Froggie have been part of the grave goods?' asked Benny.

'We haven't found anyone else in the grave yet,' said Heidi.

'Apart from the bones in King Froggie's mouth,' said Benny. 'What about them?'

'That's an intriguing thought,' said the Professor. 'Dismembered and buried in the mouth of a sacred beast.'

'Yuck,' said Heidi.

'Alien species,' said Chay.

'So, have we identified who the butchered bones belonged to yet?' asked the Professor.

'Not yet,' said Chay.

'Why not?' asked Pilar.

Chay looked pointedly at Benny. 'Because genius though I am there is only one of me and I haven't had time to do it yet.'

'I'm rusty,' said the Professor, 'but I think I can give you a hand.'

Pilar looked shocked. If the Professor thought it was important enough to get out of her trench...

'I think trench one is pretty much all done bar the shouting,' said the Professor. 'I'm going to let Shawnee take it down another metre just in case but I'd say it was time to move on: She looked at Simone.'

'I've found some more potential city sites,' said Simone. 'One of which may be better preserved than the first.'

'Where?' asked Benny.

Simone called up a map. 'Right there,' she said. 'In the middle of the Desert of No Name.'

After a swamp and a frozen forest the next worst place to dig would be the middle of a desert. Benny held out her hand to Chay and waited. He reluctantly put a chit into her waiting palm – written on the chit was 'LATRINE DUTY'.

'Let that be a lesson to you, Chay,' said Benny. 'The great Augustus Sod is never wrong.'

Pilar and Simone went to the desert for a recce. The Professor did ask

Benny if she wanted to go but she wanted a chance to catch up with the paperwork.

There were finds by the end of the day – lots and lots of pottery fragments.

‘Mechanically produced,’ said Pilar during that evening’s conference call.

‘We’re designating it “BON SUN SPINWARE”.’ Bon Sun was the name of the nearest town and Pilar, traditionalist to the core, had named the site after it.

Spinware was a useful catch-all term in xeno-archaeology to designate pottery that looked like it was ‘thrown’ on a pottery wheel, sprayed into a rotating mechanical mould or, in one peculiar society, rotated on artificial genitalia. In the absence of a workable stratigraphy, dating would have to wait for the fragments to clear Chay’s backlog.

Archaeology for Primates was the bestselling manual for professional archaeologists not just because of its availability and accessible style but because of the statistical appendices. These statistics were gathered with characteristically Martian obsessiveness from all the professionally recorded archaeological research that had been undertaken in known space.

Pottery is generally used differently in societies that have not crossed the mass-production event horizon. As paper was for the nineteenth century or linseed polymers for the twenty-second, pottery was cheap, easy to use and disposable – and indestructible – which was why you tended to find so much of it. High shard densities were indicative of a pre-industrial site in 0.7173 per cent of cases.

Got to love those Martians.

Shawnee Redware seemed cruder than Spinware, but given a geographical separation of over six thousand kilometres that meant little. What they really needed was a Troy, a city that had been built entirely upon the ruins of earlier cities.

Simone had downloaded a couple of terabytes’ worth of orbital imaging into the research data pool – Benny called it up. There were over sixty thousand possible sites, 27,000 marked interesting and a priority list of 628.

Like most population sites on wet planets, ninety per cent of the likely sites were coastal or riverine.

If Benny assumed, King Froggie’s shrunken brain notwithstanding, that they were dealing with an amphibious species, then the oldest sites would be along the coasts radiating out from the so-called ‘civilisation start point’ – the first towns and cities. A couple of statistical models from the Professor’s database didn’t help, nor did staring at the screen until it went blurry – she couldn’t find a pattern.

She went back to the raw orbital scans but it was too much data to handle.

When she found herself playing with the artificial colour to make pretty pictures she knew she was beyond the point of useful work and went to bed.

She couldn't sleep and while she was staring at the shadows on the tent fabric she suddenly made sense of what she'd seen. She got up and checked the data and considered waking up the Professor in the middle of the night.

She restrained herself, settling instead for an early morning visit with a cup of tea and an incriminating hardcopy.

'This is a military code,' said Benny. She'd underlined the 22-digit alphanumeric in the corner of the hardcopy. The TCX prefix indicates a stealthy targeting satellite in a low polar orbit. Simone is using classified weapons-grade data to conduct her surveys.'

'And you think the data is suspect?' asked the Professor.

'No,' said Benny. 'But it means that Simone is involved in military intelligence, probably one of those freelance –'

'Actually,' said the Professor, 'I think she's a serving officer.'

'Then so is Chay at the very least,' said Benny. 'And some of the other diggers.'

'And Heidi,' said the Professor, which was a bit of a shock.

'You knew they were military?'

'On sabbatical, or secondment or whatever the bureaucratic buzzword is,' said the Professor. 'But, yes, I knew they were military.'

Benny stared at the Professor. 'And you?'

'Gosh, no,' said the Professor. 'Well, I did my four years thirty years ago, in the Scouts, but I permanently reserved – as we used to say back then.'

'And you're okay with this?'

'Bernice,' said the Professor, 'I'm not sure I understand what your difficulty is. Humanity has been on a war footing for over a generation now and the military is just about the only effective interstellar body we have – so whatever you're doing you're usually dealing with them one way or the other.'

'I like to know what I'm dealing with,' said Benny.

'You're going to do something foolish, aren't you?'

'I'm just going to do a little digging,' said Benny. 'Nothing more than a test pit. I promise.'

'Bernice Summerfield?'

What she'd done was get on a train the next day but not before she'd made a query under the Charity Regulation Act as to who precisely was funding the Jaiwanese Archaeology Trust.

Two hours into the trip she looked up to find a neat little woman stood by her seat. She was dressed in civvies but Benny knew that she was brass. It was something about the stance, the cautious set of the shoulders that belied any show of relaxation. It was the way her father had stood, back in the days when she had a father.

‘That depends,’ says Benny. A number of suspiciously nondescript men and women had slid into seats to the front and rear of Benny’s.

The woman sat down in the opposite seat and smiled. Strangely, Benny thought she saw a touch of sadness in the smile, a wistful hint of something.

‘My name is Elsa Lafayette.’

‘Brigadier?’

‘General,’ said Lafayette with an apologetic shrug. ‘I’m essentially in charge of the military establishment in the Jaiwanese system.’ One of her eyes was blue; the other was brown flecked with gold. Bernice wondered which one was the prosthetic. Modern surgery didn’t leave scars – at least not visible ones.

‘Can’t be easy being stuck in a small backwater like this,’ she said.

‘I knew your mother,’ said Lafayette.

Bitch, thought Benny. You think I’m impressed? You think I’m that easy to manipulate?

‘That’s funny,’ said Benny. ‘She never mentioned you.’

‘No reason she should. This was years before you were born,’ said Lafayette. ‘I’m sorry about your parents.’

‘Thank you.’

‘You realise,’ said the General, ‘that technically you’re still a deserter and that I could have you arrested and court-martialled? Not to mention the several hundred civil and criminal crimes you’ve no doubt committed since you failed to report to your assigned recruiting station. Travelling on a false passport would just be the start of it.’

‘Then arrest me,’ said Benny.

‘You are so like your mother.’

‘Stop talking about my mother,’ said Benny.

Lafayette made a gesture that included her security detail and the fact that they unaccountably had the carriage to themselves. ‘Make me,’ she said.

Benny kept her mouth shut but it wasn’t easy.

‘You see, Bernice, bravado only takes you so far,’ said Lafayette. ‘Brains will get you further.’

‘Obviously you need me for something,’ said Benny.

‘Life is not a conspiracy theory, Bernice,’ said Lafayette. ‘I’m not going to arrest you for the same reason that the people before me haven’t. Because you’re Admiral Isaac Summerfield’s daughter and he was killed in the line of duty and you’re mother is dead and we feel

sorry for you. And frankly, Bernice, for now, the war can do without you.'

'For now.'

'There's always some arseholes in every organisation. Someone will reckon that compassion is all very well but regulations are regulations, or maybe they'll have lost more than you and reckon you've got off lightly so far.' Lafayette paused and looked out at the landscape rushing by. 'Not on this planet but who knows?'

'And the dig – what's your interest in that?'

'This system is the rear-area depot not just for Transcoalsack but for all the sectors out to the Wolf Stars. At any one time there are two to three million military personnel at bases scattered across the planet, not counting the bases we have around the gas giants or in the planetoid belts. We assemble, train, hone and equip whole divisions – whole armies on occasion – and when they're needed at the front we load them into transporters and away they go. Our recruiting base is from the second-stage colonies, so most of them are volunteers and all of them are young.'

It was a well-known fact that there was active resistance to the draft on Earth but out on the colonies, where the threat was more immediate, there was still enough mindless patriotic fervour to fill the ranks.

'Quite a large percentage of them are going to die,' said Lafayette.

'Do they have to die?' asked Benny.

'You know what it is we're fighting,' said Lafayette. 'So you know the answer to that question. As I said, most of these kids haven't lived and in the gap between training and deployment we like to keep them occupied – for morale purposes.'

'Doing archaeology?'

'Archaeology, town planning, health care, social work, sculpture,' said Lafayette. 'We call it the Get-a-Life Programme.'

'Whole armies?'

'Pretty much,' said Lafayette.

'Including their logistical elements?'

'Of course.' Lafayette looked cautious.

'Some of whom will be trained for arctic deployments,' said Bernice.

'I'm so going to kill you for this.' Chay had to shout over the roar of the engines.

'You were the one that wanted ice cores,' Benny shouted back.

'I said I wanted the historical temperature data,' said Chay. 'I can live without the actual cores themselves.'

'You don't think it's good to get away from the hot weather?'

General Lafayette had a sense of humour at least. Within three

hours of her suggestion, Benny, Chay and a stick of Marines were suborbital in a Fulcrum-class assault hopper – heading for the northern ice cap.

They were all outfitted in combat armour rigged for arctic conditions. Chay looked as comfortable in it as he did in anything else – Benny figured he would have trained for armour in basic. She hadn't, and although she was rated for several kinds of hostility suits she was uncomfortably aware that she didn't know what half the suit systems did.

'Relax, honey,' the armoury tech had told her when they strapped her in.

'Just don't touch anything with a targeting icon on it.'

Benny hoped the tech had been joking – she had assumed that all weapon functions had been disabled.

She wondered what her father would have said. He had a traditional navy disdain for ground troops but he'd also had a soft spot for the Marine Corp.

Benny reflexively pushed the thought away – he was gone – move on.

Nothing to see here.

The Fulcrum's pilot pulled a completely unnecessary three-g deceleration over the landing zone before putting them down without a bump.

'We're in the middle of an uninhabited ice shelf,' yelled Chay, presumably at the pilot. 'Just who the hell were you trying to impress?'

'The same people Marine pilots always try to impress,' said Benny.

'Themselves.'

'Helmets on, people,' yelled the Marine sergeant in command. 'I'm cracking the hatch.'

But when Benny went to fasten her helmet on Chay touched her arm.

'Leave it off,' he said. 'Just for the first couple of minutes.'

Benny had never stood on an ice cap before – not one on a terrestrial world.

She had expected it to be like the ice moons she'd been to, a violently lifeless landscape, glittering under a black sky.

Instead it was an exhilarating white and blue, the same colours as a terrestrial planet seen from space. The sky was wide and a fearsome powder blue laced with the white feathers of stratospheric cloud. The ice itself was fractured and then whipped into whirls and spires by the wind, which cast long blue shadows over the surface where freshly fallen snow glittered like icing sugar in the sunlight.

The frigid air seemed to burn and purify Benny's lungs and for a moment she could not move due to a strange urge to allow herself to freeze and to merge with the landscape – become one with eternity.

'You'd better put your helmet on now,' said Chay, 'before your ears drop off.'

With her helmet on and her ears burning, she went to join the drilling team.

Chay was using a cylindrical force drill. It was tipped with a circular force field that was thin enough to separate one molecule from its neighbour and was designed to bore through solid rock. Chay pushed it down with one hand and went down sixty metres in less than two minutes – and that was with a breather halfway through. Pulling it up was a different matter: he used an electric motor for that.

The samples came out in two-metre sections that could be stacked in insulated cases that were called, for no reason that Benny could fathom, lady boxes–

She realised that Chay was staring at one of the samples.

'What's wrong?'

Chay pointed – near the top of the core was a dark strip almost a centimetre wide. It looked like a destruction layer. 'We need to widen our sampling area.'

'Is that a destruction layer?' asked Benny. How long ago?'

'We have to take more samples to calibrate,' said Chay. but at a guess about ten thousand years ago.'

'That puts it after the stuff we're pulling out of the wetlands,' said Benny.

It looked like soot, like a particulate deposit of some kind and if it formed a thick layer here – on the ice sheet.

'If it were global then we're looking at an extinction-level event,' said Chay.

'Enough of a dieback to completely reshape the species distribution of the whole planet. It would explain why we can't match the burial tribute to current species.'

'Poor old froggies,' said Benny.

'It could be a purely local phenomena,' said Chay. A volcanic event or an planetoid strike. That's why we have to widen our sample area. We really need to get Simone up here as well.'

'No way,' said Benny. 'You know she'd try to walk it.'

Chay laughed.

'So what is she really?' asked Benny. 'When she isn't moonlighting as an archaeological surveyor?'

'OrbArt SFCO,' said Chay. 'Surface fire control officer.'

Orbital artillery, what the grunts called rock droppers even though what they actually dropped were kinetic harpoons and plasma bolts.

Orbital gunners claimed that they could put their ordnance down within less than a centimetre of the aiming point. And that was the rub, the aiming point. If you cared about accuracy, collateral damage or, more likely, not blowing away your own troops, you needed someone on the ground to fix that aiming point. And that someone turned out to be Simone Argani. In camouflage, hugging the ground for hours, even days and then – with the merest electronic whisper – raining down fire and death.

It made Benny queasy to think about it.

‘And she’s a Lucy,’ said Chay.

A lieutenant – well, that figured, thought Benny. You wouldn’t want to trust a grunt with God’s own smite button. ‘What about you?’

‘Specialist, first class – ecological warfare.’

‘Ecological warfare. That’s terrible.’

‘Purely for defensive purposes,’ said Chay. ‘Not to be used in an offensive capacity whatsoever – except as a last resort.’

‘Let’s get the shuttle loaded and see if we can’t get a wider sample distribution,’ said Benny.

As they slogged back to the Fulcrum another thing occurred to Benny. ‘If all of you, except for the Professor and Pilar, are in the military then you guys must have a commanding officer in the field.’

‘Heidi’s a captain,’ said Chay sulkily. ‘She’s in charge of the lot of us.’

They climbed into the hopper and let the Marines do all the heavy lifting.

‘Hold on,’ said Benny as they strapped in. ‘That means you and Heidi are vertically fraternising.’

‘We are not,’ said Chay. ‘We’ve always been strictly horizontal.’

‘You two are so busted,’ said Benny.

They endured another couple of three-g landings and took core samples from as wide a spread of the north polar ice shelf as possible. The same destruction layer occurred at all the sites and the stratigraphy was consistent with a single event. Simone was monitoring the data in real time – she thought it must have been an planetoid or comet strike.

‘Of course she says that,’ said Chay. ‘Dropping rocks is what she’s all about.’

‘What else could it be?’ asked Benny.

Chay shrugged. ‘Nuclear exchange, super volcano, a runaway industrial process that pumped particulates into the atmosphere, a weather control system gone wrong...’

‘You’re joking.’

‘No, it’s happened,’ said Chay. ‘It’s one of the great cautionary tales

of ecosystem analysis – nothing good ever comes from messing with the weather.’

‘Explains our frozen potfish spider,’ said Benny.

‘But not where all the buildings went,’ said Simone over the com. ‘Anything big enough to topple every structure on the planet would have reset the biological clock. This has got to be a smaller event.’

‘That’s assuming they built above ground,’ said Benny. ‘Maybe they were hobbits.’

‘What’s a hobbit?’ asked Chay.

‘Small humanoids that lived in holes,’ said Benny. ‘I’ll port you the documentary evidence later.’

‘Were they amphibians too?’

‘Do you think they saw it coming?’ asked the Professor.

Benny had taken to joining the Professor for a nightcap in the porch of her tent. The others stayed away. Perhaps, thought Benny, because they believed she and the Professor discussed weighty philosophical matters, performance evaluations for example, or that she was going to get the job of excavating the cess pit. Benny had hot chocolate – not the real thing, of course, but close enough. The Professor preferred a vile-smelling herbal cordial she claimed helped her sleep.

‘They probably had the technological ability to track an planetoid,’ said Benny. ‘But it was a fast mover so it could have just come as a horrible surprise.’

‘Had they seen it, could they have deflected it?’

‘I don’t know the answer to that. It would depend on how early they spotted it,’ said Benny. ‘We haven’t seen any evidence of a space programme yet.’

‘Which would you prefer?’ asked the Professor. ‘To see it was coming or for it to be all over before you knew it was happening?’

‘I’d prefer not to be hit by the rock at all, thank you very much.’

‘You don’t always get that option, Bernice,’ said the Professor. ‘Which one is it?’

‘I’d rather see it coming,’ said Benny. ‘Have a chance to put my life in order, run up some big debts, eat and drink things that I thought I never would, do a parachute drop from orbit... fall in love.’

‘Been there, done that,’ said the Professor. ‘I’d rather not know, thank you very much. Just as long as I’m in the impact vaporisation zone. So it would be quick.’

‘Ah,’ said Benny, ‘but you have your goddess, so for you everything is pre-ordained and when you die you go to her.’

‘My Goddess,’ said the Professor, ‘is not omnipotent. She may light your way in the valley of shadow but the path you take is down to you. What she gives is wisdom and comfort and all that she expects is

that you live a good life.'

'A good life,' said Benny. 'Meaning what exactly?'

'That you be a laughing child, a courageous youth, a loving adult and, finally, a wise elder.'

'I bet that's a lot harder than it seems,' said Benny.

'See?' said the Professor. 'She has granted you wisdom already.'

'Can a species live a good life?'

'You're thinking of the froggies?'

'Or whoever domesticated the froggies,' said Benny. 'It just seems unfair to get wiped out by a random bit of rock.'

'If it was random,' said the Professor. 'You and I both know that there are species out there that would have snuffed them out without giving them a second thought.'

'Laughing children,' said Benny, 'that's what they were. Just on the cusp of courageous youth.'

'Chay's been spiking your cocoa again.'

'I put some blackhandle in it,' said Benny. 'It's been that kind of a week.'

'Is that the stuff Shawnee uses to thin paint?'

'And if we lose the war,' said Benny, 'and we end up standing in front of the Goddess and she asks us, 'Humanity, have you lived a good life?', what the hell do we say?'

'Oh, Benny,' said the Professor. 'Go to bed.'

'No, seriously What would you say?'

'When the time comes,' said the Professor, 'I will look the Goddess in the eye and say, 'Did I live a good life? I don't know. Ma'am, but I gave it a hell of a try.'"

Benny got unsteadily to her feet. 'That's a good answer.'

'It should be. I've spent fifty years thinking it up.'

'Good night, Professor,' said Benny.

'See you in the morning,' said the Professor.

But she didn't because some time in the early hours of the next morning the Professor died of heart failure.

04: Evidence of Absence

It wasn't like it was the first person close to Benny to die and it wasn't like Benny had known her for that long. It wasn't fair that she could still be hurt like this. She was a grown-up now – didn't that count for anything?

Out amongst the trees, Shawnee was running and screaming. Simone and Chay were trying to catch her but the young girl was too fast and reckless in her grief. Benny had wanted to tell them that they should just wait – that this was Shawnee's cultural expression of grief – but she didn't know if that was actually true.

Heidi was keeping busy and being practical – Benny was envious.

The coroner's office in Reconciliation had reviewed remote telemetry of the body and given permission for some clean-up but they were not to remove the body until the official transport arrived.

The truth was that the Professor had died quietly at about three in the morning. Most of the mess had been caused by Benny and Chay's use of the resuscitation kit after Shawnee found her. They'd worked on her for half an hour even though the machine was unequivocal about the onset of permanent brain death.

Benny assigned herself the job of waiting at the ATV park for the coroners to arrive. When they came she quickly and efficiently guided them to the Professor's tent. It seemed to take a long time for them to make the same determination that the machine had – the Professor wasn't coming back.

They loaded her into a rigid, white medical case and took her away. The coroner's assistant left Benny with a disposable smart card with their address and a list of suitable post-life management boutiques. She watched as the airvan lifted from ATV park and headed west and resisted the urge to wave goodbye.

Shawnee crossed the trail in front of Benny and stopped. She glared for a moment before picking up handfuls of mud and flinging them at Benny.

She ducked but Shawnee was a superior shot and the first handful struck her in the head; the second went down the neck of her sweatshirt.

'Shawnee, stop,' she called.

Shawnee stopped and glared at Benny, her face twisted out of shape. 'I hate you,' she screamed. 'I wish you'd never come here.'

Benny went back to her tent. There were things she needed to do but she couldn't bring herself to do them. Instead, she climbed into bed fully clothed and went to sleep.

Later that afternoon, Heidi came in to tell her that she needed to authorise payment for the coming food run. Benny climbed out from under her covers and did the paperwork.

‘Where’s Shawnee?’ she asked.

‘She bit Simone and sailed off in her boat,’ said Heidi.

‘I told them to leave her alone,’ said Benny.

‘Yes, you did,’ said Heidi. ‘But you have to get back to work.’

‘Today?’

‘In your case – yes,’ said Heidi.

In some ways the truly horrifying thing was the way inertia carried her through. She informed the Jaiwanese Archaeology Trust, a wholly owned subsidiary of the military, and they changed the names on the fund transfers.

She closed down the Professor’s personal account and put in a legal query to the local government system to make sure she didn’t miss any local customs or permits that would have to be renewed.

With a series of small baby steps, she took over the whole dig as smoothly as if the Professor had planned it that way. Which, of course, she realised, the Professor had.

And every so often she would just cry. It never happened in company but alone she would be checking the finances or cleaning her teeth and she would feel her face pull out of shape and the tears wet her cheeks. But she felt disconnected: all this emotion was confined to the skin of her face unaccountably moving of its own volition across the smooth unruffled contours of her skull.

She wasn’t sleeping and she really, really, wanted it to stop.

She wasn’t the only one. The next day, she found Pilar in his tent, packing up his stuff.

‘You knew,’ said Benny.

Pilar shrugged. ‘She got poisoned while working on a dig. An industrial site on Cray. We’d taken the normal precautions but you know the Professor – always liked to get in there. It damaged her enteric nervous system and that cascaded through her gastric system and basically all that was holding her guts together was coffee and nano-scaffolding. The only cure would have been total cybernetic replacement but that was against her religion.’

He stopped, a half-folded sweater poised over an open carryall.

‘I’m sorry,’ he said. ‘I can’t stay. She would have wanted me to finish the dig but I just can’t. She only came to this stupid planet because she wanted to die in harness. I can’t stay here any more.’

‘Where will you go?’

‘Back to Earth – there are still things to be found there even now.’ Pilar picked up a slim book and handed it to Benny. She was shocked

to see that it was a real paper book with bound pages – many of which were blank.

‘What’s this?’

‘It’s called a diary,’ said Pilar. ‘It’s a bit like a blog except you physically write it with a pen and, apparently, nobody else is supposed to read it.’

Benny ran her finger along a page. It was smooth and creamy under her fingertip. About a third of the book, the ‘diary’, had writing in it. Pages of a cramped, tidy handwriting that she found hard to decipher. Benny had never seen more than two lines of handwriting on the same page before. ‘I can’t take this,’ she said.

‘Why not?’

‘You said nobody was supposed to read it.’

‘Not while you’re still alive,’ said Pilar. ‘Once you’re dead, all bets are off.’

‘Why do you think I should have this?’

Pilar looked away. ‘Last few years of her life,’ he said. ‘You were the best thing that happened to her. She said that, providing you didn’t do anything terminally stupid, she could go now because she knew she would be immortal.’

‘What did she mean?’

‘Fuck off, Benny,’ said Pilar. ‘Please, love. I need to get packed.’

‘No,’ said Benny. ‘I need you to stay.’

‘Now you’re being silly.’

‘Okay,’ said Benny. ‘Archaeology needs you to stay.’

‘Archaeology can blow me,’ said Pilar.

‘Pilar, you can give me this world-weary, seen everything, just want to go home... crap,’ said Benny. ‘But I’m not buying.’

Pilar put down his stuff and turned to face her. ‘And you think this is significant because of what? Because you are destiny’s favoured child.’

‘There were two proper archaeologists on this planet and one of them is dead and the other is packing up to leave and I can’t do it on my own.’ She started crying, the wet face and the hated, undignified sniffing and the terrible self-pitying voice that sounded like a seven-year-old. The little girl she had sworn that she had left behind.

It was humiliating and shameful, and doubly shameful because a part of her knew that Pilar would not be able to resist this – that she could make him stay by crying.

She stiffened as Pilar put his arms around her. ‘What is it you want from me, Benny?’ he asked.

‘I know you don’t want to stay here but it’s a big planet and I need you to run the second site,’ said Benny.

‘What second site?’ asked Pilar.

Benny disengaged from his arms and grabbed at a tissue. 'The Professor wanted to open a dig at one of Simone's city sites.'

'She never said anything to me.'

'She wanted it to be a surprise,' said Benny.

'I'm going to send Pilar to the desert,' the Professor had said. 'He's only really happy when he's in the desert; he gets to wear the hat and develop that interesting, sunburnt face. The desert's nice and simple, Benny. It's sand and rock and doesn't have those tree roots cluttering up your trench. Besides, he's really good in the desert, much better you or I will ever be. A veritable Yoda amongst archaeologists – in the desert.'

'Who's Yoda?' asked Benny

'You've got my database,' said the Professor. 'Look it up.'

'Which site?' asked Pilar.

'The one in the desert,' she said and by the look in his eyes Benny knew she had him.

Admiral Isaac Summerfield had a military service held in orbit on the fighter deck of the TNS *Fandango*, a retired escort carrier. Men and women in starched white and blue had stood at the podium and spoken of bravery, leadership and commitment. They had played the anthem of the Navy and The Far Green Hills of Earth and some of the civilians had cried. Not Benny though – she knew that her father was still alive.

Her mother had never served in uniform but she'd been a Navy spouse and at her funeral the men and women also wore starched white and blue and talked about loyalty, devotion and determination. As hard as she tried not to, Benny couldn't stop crying. They'd played *We Are Such Stuff (As Dreams Are Made Of)* and some of Mummy's friends had cried as well. Even some of the fierce, scary ones that Benny had never liked.

There was going to be nothing military about the service for the Professor.

Benny hinted to the others that she would consider dress uniforms in bad taste and wished she hadn't when she saw how much that annoyed Chay.

They did advertise but few people from outside the dig attended. Certainly, General Lafayette wasn't there, which was a good thing from Benny's point of view.

Shawnee arrived with a short but exquisitely turned-out middle-aged man.

He introduced himself politely as Shawnee's father but it was obvious that Shawnee herself still wanted nothing to do with Benny. During the service she stood as far away as she could manage.

They held the service where the spoil heap for trench one had sat. They kept it short because of the afternoon heat and because, as Heidi said in her eulogy, what words could you say to encompass so wide a canvas as Mariela Ankola's life. They played *Rainy Night In Georgia* and the Sussex Pastoral from Roland's *Dreams of a Fallen Empire* and Benny didn't cry, though Pilar did.

There were three schools of thought amongst archaeologists as to what should be done with your remains after you die. One school believed that you should remove yourself from the environment, be shot into a sun or aerobraked into a gas giant. That way you would pose no danger of contaminating the evidence base and, more importantly, it would stop some damn fool of an archaeologist digging you up in a couple of hundred years and making fanciful conjectures about the life you led.

'Who wants,' Pilar had said once, 'to be part of a ritual landscape.'

The second school of thought ran exactly counter to the first. In death, it said, we should as enthusiastically add to the historical record as we once recorded it. We should go into the ground with our coffins or urns stuffed with non-perishable artefacts, carefully engraved with their dates and functions and with notes pointing out where other points of interest in the surrounding landscape can be found.

The final school of thought held that it was inevitable that sooner or later even archaeologists have to grow up and face the universe in a mature fashion. If this can be achieved before death so much the better; if not, then at least they can make sure their remains are taken care of in as tidy a fashion as local custom decrees.

The Professor had a Last Ticket – a prepaid travel voucher that would ship her as express freight all the way back to Earth and a nice comfy grave in the Rift Valley in Tanzania. Despite the current fashion for burial on the planet Heaven, Earth was still the most common Last Ticket destination and the Rift Valley the most popular last resting place with archaeologists, anthropologists and romantic poets of a certain age.

Benny hoped the Professor didn't have to share her grave – otherwise it would be hard on the romantic poets.

Benny took it upon herself to drive the Professor to the shipping office. She had some vague plan about stopping for lunch at that place in Reconciliation but in the end she burned straight through on autodrive. She put the top down and slipped on a pair of Chay's multi-function Ray Bans and let the wind disorder her hair. The Professor had flagged a Canadian singer from the early twenty-first century called Alanis Morrisette on her database and Benny ported it to the

ATV's speakers and turned up the volume.

The shipping office was in a small building just short of the spaceport, hard up against a pair of warehouses big enough to have their own microclimate.

A couple of robots quickly relieved her of the Professor's body while a tall man in a conservative boiler suit led her through the paperwork. He had the brisk compassion of people who work professionally around the bereaved. It was over shockingly fast and Benny quickly found herself standing in the car park with the paperwork in her hand.

As the ATV picked up speed back along the causeway, Benny looked east, where Jaiwan's cobalt blue sky touched the red-green smudge of the kwumtree stands, and realised that, six months after landing, she was finally at peace with the planet.

Now, isn't that ironic, thought Benny.

The Professor had been scheduled to make a school visit the next day Benny had been planning to cancel but changed her mind at the last minute. The Professor had once told her that it was their duty to cultivate the next generation of archaeologists. 'After all, Bernice,' she'd said, 'who else is going to do it if we don't?'

And, anyway, it was all Benny's fault – these were the same kids that helped with the field walking.

The school was at Neeno, a town forty clicks across the peninsula, where Local Three hit the east coast and made a sharp bend north. It existed, as far as Benny could tell, because there was only so much empty road you could drive down before going completely mad. The houses were all strung out along the highway, set back from the road amongst the kwumtrees on pylons or artificial islands. In the middle of the town, where the highway turned north, was a marina, a traditional, open-sided town meeting hall and, built on a reclaimed spoil heap, the Regional Educational Facility or REF.

Fashions in educational provision change over time and distance.

Following the deaths of her parents, Benny had attended a series of service boarding schools culminating in an institution whose unofficial motto was 'Education, pain, death; choose any two'. On Jaiwan, like many low population density worlds, they had adopted a voluntary system: children could be educated in a facility, at home or through apprenticeships as long as these options met minimum standards. The standards were administered from the county REF which, in particularly hick areas, was the local school.

It must be, she figured, much more relaxed than her school days.

Although, she realised standing in front of the orderly and frighteningly attentive ranks of children in the assembly, not lacking

in discipline.

It was every single bit as bad as she had thought it would be. There was a back row of late teens, some of them almost as old as she was, all trying to adopt the attitude of louché unconcern that is *de rigueur* for young adults.

The group distribution was entirely normative. Some looked cool, some wished they looked cool and the rest wished that the ones that looked cool looked at them.

In front of them were a phalanx of early teens, these evenly split between the interested and the who cares. In front of them, close enough so that Benny could smell them, were the pre-teens – beady-eyed little monsters ready to pounce at the first sign of weakness.

The Professor had left notes for just this eventuality and one of them said attack is always the best form of defence.

‘Good morning,’ said Benny. ‘How many of you can tell me how old your town is?’

None of them could, of course – that’s why she’d asked.

The county educator had a cup of black coffee ready for Benny in her office.

It was sweet and laced with flatbush brandy. Benny sipped it gratefully.

‘I thought you did rather well,’ said the educator. ‘Given your age.’

Benny snorted. ‘Thank you.’

‘I understand,’ said the educator, ‘that you’ve been part of an extra-mural substitution for one of my pupils.’

Benny looked at her blankly.

‘Boonmee Ung?’ said the educator.

A little memory flag was waving in Benny’s highly trained mind.

‘Shawnee?’

‘Shawnee,’ said the educator. ‘Bright girl. We haven’t received her core evaluations for a month now – is everything all right?’

‘Everything’s fine,’ said Benny. ‘I must have lost track, what with the funeral and everything.’

‘Yes,’ said the educator. ‘I’m sorry for your loss.’

‘Thank you,’ said Benny. ‘I’ll get on the paperwork as soon as I get back.’

‘That would be really helpful and...’ The educator topped up Benny’s cup.

‘I have another favour to ask.’

‘Sure,’ said Benny.

‘I’d like to make this a regular event,’ said the educator. ‘You, or one of your colleagues, could come up and give a talk and answer questions. And I thought the field-walking exercise was very

productive – despite the language.’

Benny didn’t want anything more to do with the scary monsters but this could be passed over to Heidi and Chay. With their combination of sex appeal and sunburnt cool they’d make mincemeat of the kids. She had the whole conversation mapped in her mind but instead she said, ‘I’ll do it myself.’

She kicked herself all the way back to the dig.

Pilar pinged her the next morning and said he wanted to show off his trench.

‘I bet you say that to all the young archaeologists,’ said Benny.

‘As a matter of fact, I do,’ said Pilar. ‘You’d be amazed how often it works.’

‘I’ve got some chores to take care of but I can make it up day after tomorrow.’

Pilar agreed and offered to send the latest CAR updates but Benny said no.

‘I’d rather wait until I’m there,’ she said. ‘It’s just not the same –’

‘... if you can’t lick the dirt,’ said Pilar. ‘She always liked to be on the spot.’

‘Lick the dirt? She said, ‘Touch it with your own fingers,’ to me.’

‘Well,’ said Pilar. ‘I’ll see you day after tomorrow. Bye.’

Lick the dirt, thought Benny as she looked over the rectangle of backfill that marked trench one. I bet she was drunk when she said that.

The easiest way to reach the Koontalay was riding back on the morning supply run. When Benny approached the young man who’d taken over Shawnee’s route, he just shrugged and gestured for her to sit in the bow.

The planetary net was maddeningly vague on the subject of the Koontalay.

Even the GenRex, the local offshoot of the LDS Genealogical Gazette, had them listed as an amalgam group of unspecified and untraceable origin. To the Jaiwanese in general they were just another bunch of hicks, to the people of the peninsula the guys you buy potfish from. Shawnee’s father had looked like a hick in his funeral suit but a dignified and stylish hick all the same.

Shawnee said they lived on boats but that could mean anything.

What it actually meant was everything.

At the core of the village was a flat-bottomed paddle steamer that, Benny learnt later, had been picked up by Shawnee’s father at a liquidation sale when a tour company went bust. Originally painted a pale lemon yellow it was being gradually covered in a bright patchwork of murals.

‘Town hall,’ said the young man. ‘Pretty good, nah so?’

‘Pretty good,’ said Benny.

The permanent mooring was on the west side of a large lake amongst the Kwumtree and marl prairie that formed the lower watershed of the Silent River. Like most features of the peninsula, its boundaries were ambiguous – you could call it a lake because it was open water but try walking on the shore and you’d be swimming with the shuttlemouths.

Family boats were mostly double-hulled cabin cruisers or adapted catamarans with fibreglass or carbonflex hulls and raked superstructures.

Each family boat was surrounded by a flotilla of skips, junks, rafts, sailing dinghies and little flat-bottomed impeller-driven skiffs like the one Benny was riding in.

Mr Boonmee was waiting for her on the deck of the family boat. As she scrambled on board, Benny thought she saw Shawnee peering furtively from a porthole.

Mr Boonmee shook her hand and led her into the forward compartment that obviously served as a parlour. There she was served tea under the holographic gaze of, Benny estimated, five generations of Boonmees. They seemed remarkably pleased to see her, which was reassuring.

They talked about inconsequentials over tea – the weather, the fishing, how the weather was affecting the fishing – and it wasn’t until tea had been cleared away and the brandy brought out that Mr Boonmee got down to business.

‘My daughter,’ said Mr Boonmee, ‘wishes to become an archaeologist.’

‘Good for her,’ said Benny.

‘As her father I am concerned with two things,’ said Mr Boonmee. ‘Will my daughter make a good archaeologist?’

‘Your daughter will make a fine archaeologist,’ said Benny. ‘She already has a feel for the nuances of the work and with academic training I’m sure she will master its theoretical underpinning as well.’

‘Academic?’ said Mr Boonmee.

‘Archaeology is a science,’ said Benny, whose own academic credentials were shaky at best. ‘Most of the time.’

‘Is it a good profession?’ asked Mr Boonmee.

‘Well, you’re not going to get rich...’

Mr Boonmee waved his hand. ‘No,’ he said impatiently. ‘Is it a good profession?’

‘Yes,’ said Benny without hesitation and then thought – is it? ‘It’s about the search for the truth and I can’t think of anything better than that.’

Mr Boonmee smiled in a way that suggested that he could think of many things better than the search for the truth but didn't want to spoil the mood.

'I would like,' he said, 'for you to take on my daughter as an apprentice. Until she is old enough to attend university.'

'And apart from your daughter's undoubted talents,' said Benny, 'what do I get out of this?'

Mr Boonmee nodded cheerfully. 'Really large amounts of fish,' he said.

Shawnee was waiting meekly in her own boat with a couple of kitbags and a nervous half smile. Benny did her best to look stern and dignified as she stepped into the boat and took her place near the bow.

'You will do what I say when I tell you to do it. You will not interfere with anybody else's projects or throw mud at anyone except Chay. And you will never, ever wake me up before eight in the morning unless there is some sort of global catastrophe,' said Benny. 'And even then you'd better make sure you have a coffee in your hand.'

Bon Sun was an eight-hour drive up the Pinky and Perky Axis and then another two on Local 97, but according to Simone it was easier to take the train and then hire another VTOL to the site. 'Bon Sun's not very interesting,' she said.

The actual VTOL was a classic Dragonfly Flitter, a two-hundred-year-old design beloved of flying doctors and holo shows about wilderness law enforcement. It lifted from the public pad behind the station and flew them west along the line of the highway. Bon Sun was a mining town; from the air it was a scatter of white, heat-resistant blocks, landing pads and ground roads. It was too hot and dry for sidewalk grass or road lawn so even the residential areas had permacam roads. It was a mining town servicing local mines and ancillary equipment and even from above it had the air of quiet desperation common to small desert communities.

Beyond was an undulating plain of what was technically a sahel or possibly a proto-desert, formed, according to Chay, by a shift in rainfall patterns less than five hundred years ago. The relentless march of the desert was being contested by matted clumps of brinnigwald and shrompflower – low-slung bushes whose roots bound the topsoil together and prevented erosion. To the east and west, the desert had pushed further south but around the dig was a thumb-shaped ochre salient where the vegetation had held back the tide. There the brinnigwald grew up to a half a metre tall and in sheltered spots dwarf relatives of the disco tree called hustletops thrust deep roots to

find water. This ecological last stand was fuelled by the archaeology under the topsoil, the remains of an artificial water course that retained fossil moisture from the last millennium. Obviously, Pilar had reported, when whoever the precursor species were ran out of natural swamp they built themselves a new one.

‘So, they messed up their environment,’ said Chay when he heard. ‘True sign of a sentient species.’

Pilar was waiting when they landed. Under his archaic bush hat his face looked tanned, creased into laughter lines. The Professor had been right, of course.’ Pilar had bloomed in the desert. Benny had looked up ‘Yoda’ in her database and found it to be a synonym for ‘master’ but also, bizarrely, an intransitive verb for poor grammar.

Watching Pilar in the desert, using insignificant changes in soil colour to track the contours of an artificial channel buried under ten centuries of sand and soil, she felt she understood what the Professor had been getting at.

‘What we have here,’ said Pilar, waving a trowel in the direction of his principal trench, ‘is a cylindrical pit, thirty metres across and ten metres deep with terraces cut into the side. What does that suggest to you?’

‘A theatre,’ said Benny.

‘I’d have said an amphitheatre myself,’ said Pilar, ‘but theatre in the round – that’ll work. We’ve done a partial excavation down one side and the trace evidence suggests that water was allowed to cascade down the terraces.’

‘A cooling system. Like the awnings on the Colosseum?’

‘According to our Chay, the climate was hot and dry even way back then.’

Pilar’s taking this somewhere, thought Benny, but he wants to see if I can make the jump. She imagined herself on the terrace watching the action below with the water...

‘Any indication of the flow rate?’ she asked. ‘Trickling or cascading?’

Pilar grinned. ‘Cascading,’ he said. ‘Fed by aqueducts from further up the slope.’

Reclining on the terrace and watching *My Fair Lady* while the water cascaded down around me, keeping my skin cool and wet. ‘I’m an amphibian,’ said Chay. ‘I’m a cultured amphibian.’

‘Or,’ said Pilar, ‘an incredibly bloodthirsty one.’

‘It is the Colosseum,’ said Benny. ‘Isn’t it? Were there gladiator fights?’

‘We found the remains of a wall painting,’ said Pilar. ‘Nothing more than a scattering of pigment molecules but enough for a reasonable

computer reconstruction.' He called it up on his PDA and showed Benny.

Most of it was the neutral grey that indicated lack of data but there had obviously been enough pigment to indicate an outline of two creatures and some of the colouring. One was definitely a wide-mouthed frog and the other was a multi-legged creature that looked a bit like an oversized slyfinger.

'Could the ten-legged thing be the precursors?' she asked.

'No way of telling,' said Pilar. 'But my gut says no – not elegant enough.'

Benny would have asked whether this could be a non-lethal contact sport but there was enough pigment to show the wound on the frog's side and lovingly depict the spurt of arterial spray that sprang from it.

'Not gladiators, then,' said Benny. 'Animal fights.'

'One of my guys called it the dog pit. Now we're stuck with it,' said Pilar.

'If the alternative is Large Sunken Feature One, I say let's go with the Dog Pit,' said Benny. And BON SUN DOG PIT it was.

'How often do you think they held the fights?'

Pilar beckoned Benny down a ladder and into a wide primary trench cut to make a section across the dog pit. At one end was a sondage large enough to have its own ladder. Pilar handed her a hard hat before they went down.

A metre below the level of the main trench was a stratum so pronounced that even Benny could spot it. 'May I?' she asked. Pilar nodded and she scraped at the surface with her fingernail – it was soft, crumbly, weirdly familiar. 'What is it?'

'Compressed bone fragments,' said Pilar.

Benny stared – the stratum was ninety centimetres in depth. 'All of it?'

'We did test pits and it covers the whole floor of the dog pit,' said Pilar.

'That's a lot of bone,' said Benny. 'Mass grave?'

'Possibly,' said Pilar. 'But this pit was half full of water, I think they just let the bodies sink and decompose.'

'Thousands of tons,' said Benny. 'Over what kind of period?'

'Less than three hundred years,' said Pilar.

'Oh, my God,' said Benny. 'You're sure?'

'Radiodated samples from top and bottom and side to side,' said Pilar. 'We may have a thousand-year margin of error over historical time but dates that close together, they're pretty firm.'

'You can't tell me that wasn't a health hazard,' said Benny.

'Definitely was for the poor buggers in the pit,' said Pilar.

'What are we going to call this culture?' asked Benny.

‘What are we calling your lot on the peninsula?’

‘Still King Froggie,’ said Benny.

‘Let’s call this lot the Alpha Culture,’ said Pilar. ‘Keep it simple.’

‘Be nice if we could find a material link between here and the peninsula,’ said Benny.

‘You mean apart from the domesticated froggies?’

Benny kicked herself for not noticing that one.

They climbed out of what Benny was mentally calling the sondage of death and into the hot sunlight. Benny tried to visualise the dog pit, the precursors, whoever they were, cool and glittering under the artificial waterfall and in the centre watching while the water was churned pink.

‘Who were they, Pilar?’ asked Benny. ‘Why can’t we find them?’

‘Because we don’t know what we’re looking for,’ said Pilar.

She woke up to find Shawnee sitting on the edge of her mattress. The girl was bouncing up and down with excitement and waving a cup of coffee in front of Benny’s face. It was the coffee smell that had woken Benny. She couldn’t fault the girl’s logic.

Benny croaked a thank you and took the coffee.

‘I’ve found something,’ said Shawnee.

‘Good,’ said Benny ‘What is it?’

‘You’ve got to come see,’ said Shawnee.

‘What’s the time?’ asked Benny.

‘Daytime,’ said Shawnee.

You couldn’t argue with that.

‘Okay,’ said Benny. ‘What have you found?’

Shawnee had found a trapdoor nestled amongst the tree roots. Her little trench had caught the edge of it and she had extended it to uncover the whole door. When Benny reviewed the CAR data later it was such a textbook bit of digging that she made all the other archaeologists watch it.

The door was a metre on each side and made of some sort of non-conductive metal which was why it hadn’t shown up on the mag sweep. The roots of the big arrowback must have been what concealed it from the resistivity and gravimetric surveys. Proving another classic maxim from *Archaeology for Primates* – if it was easy to find, somebody else would have found it already.

She banged it with the hilt of her trowel and it rang back hollow. Benny was shocked, she’d only banged it out of reflex.

Theoretically she should have fetched the others but there was no way Benny was going to not open the hatch right away. Guiltily checking that the CAR units were still operating, she scraped away at the edge until she found something she could get a purchase on.

Beside her, Shawnee was trembling with excitement.

It was lighter than Benny expected and came up easily. Shawnee spread out some plastic sheeting for her to put it on. Below was a concrete-lined shaft that was deep enough to swallow the light from her pencil torch.

For a moment Benny had the clearest vision of her descent – rigging an improvised rope from the plastic sheeting and clutching the pencil torch in her teeth she would slide down into the unknown.

‘Shawnee,’ she said. ‘Go get the others – and tell them I’m going to need some caving gear.’

Shawnee scampered off.

She didn’t have the right recording gear and only an idiot goes underground without a helmet. She was going to do this by the book but there was no way that anyone was going down there before her.

After Shawnee came back with the others Benny kitted up with unseemly haste. She knew it was only a matter of time before someone, probably Simone, suggested that they send down a remote sensing drone first and Benny just didn’t have any good arguments against that.

The big fight shaped up about who was going second.

‘There is no way,’ said Heidi, ‘that Shawnee is going down second.’

‘It’s her discovery,’ said Benny. ‘By rights, she should be going down first.’

‘No,’ said Heidi. ‘By rights, we should be sending a remote drone down first.’

‘Tell you what,’ said Benny. ‘You go fetch one.’

Heidi gave her a poisonous look.

‘Shawnee’s either going second or first,’ said Benny. ‘That’s just the way it’s got to be.’ Five metres down, she wondered if it wasn’t too late to get that remote drone after all.

The hole retained an oval cross-section all the way down and was lined with concrete gone as soft as wet biscuit. There must have been additional waterproofing involved because this far below the water table it should have been flooded. She thought she could hear water somewhere below and there was a definite smell of mildew and rotting cement. Benny decided that she really had no confidence in the structural integrity of the shaft but also the strange fatalistic knowledge that she would literally risk death rather than go back up and admit she was wrong.

She caught a glimpse of something in the light of her helmet strip and stopped her descent. A quick squeeze on her ascender whirled her up a metre until she was level.

‘I’ve got writing,’ she said.

‘Are you sure?’ Heidi’s voice on the intercom.

‘What kind of writing?’ Chay’s voice echoing down the shaft.

Small circular outlines in faded beige, clustered in groups of three or four – six clusters, all written horizontally across one side of the shaft. She turned up her light strip and recorded it for the folk upstairs.

She heard Shawnee squeal when she saw the images on the monitor.

‘That there is writing all right,’ said Chay. ‘I wonder what it says?’

Abandon hope all ye who enter here, though Benny but didn’t say it. It was amazing how superstitious being halfway down an ancient shaft could make you. She wondered if Carter had felt the same way in Egypt – or had he gone barging in all big English feet and elbows and bluff dismissal of the local beliefs.

Dropping the skull, that was just unforgivable.

Another two metres down, the shaft opened up into a void. Lowering herself until she was below the level of the ceiling she used a pen rangefinder to map its dimensions. The chamber was cylindrical, just under four metres in diameter and 22 long – like a section of tunnel. Benny was pretty certain that’s what it was. Her strip light was bright enough to make out the concrete ribs where pre-cast forms had been used to line the tunnel.

Below her, the surface of the water was black and still.

Chay had found her a pair of Ray Bans with a spelunker preset. Benny slipped them on and flipped to a filter setting that got her past the surface reflection. The water was otherwise clear and, according to the range finder, just nine centimetres deep.

Benny lowered herself the rest of the way down and winced when the water sloshed over the tops of her boots. It was always the same trade-off.

The waterproof soles were too thin to protect you and the army surplus combat boots were never, ever, fully waterproof.

She extended and undipped the tripod, shook out its legs, got it firmly seated and placed a CAR unit on top. With a flourish she switched it on and called up to say that it was safe for Shawnee to come down.

I claim this archaeology for all humanity, the Professor and the greater likelihood of myself getting a qualification, tenure and/or a book deal.

She heard Heidi shouting angrily at the top of the shaft – Shawnee was coming down way too fast.

‘What is it?’ asked Shawnee.

Benny had no idea. The chamber was filled with metal cylinders,

racked and offset into a spiral against the walls. It looked like a cryogenic chamber except she couldn't see any of the ancillary pipe work and instrumentation that you would expect with hibernation tubes.

'Ritual storage?' said Benny. 'Perhaps this is what being buried in the king froggie's mouth evolved into.'

'They look like hibernation tubes,' said Shawnee.

'After a couple of thousand years, a hibernation tube becomes a sarcophagus,' said Benny. 'But there's only one way to find out.'

'Open one up?' asked Shawnee.

'Pick which one.'

Shawnee sensibly picked the closest and they unshipped the field scanner and did the first couple of non-invasive sweeps.

'We want to come down,' shouted Chay.

'You can't,' called Benny. 'Not enough room.'

Shawnee giggled and Benny put her finger to her lips.

The sarcophagus in question was over two metres long and smooth with nothing of the adornment characteristic of the metalwork found on the site above. There were, as far as Benny could see, no clear panels as would be found in a human hibernation tube and no obvious controls.

The scanner pinged to signal the end of its first run and starting humming as it commenced the second.

'It's hollow,' said Shawnee.

'It's hollow,' shouted Chay.

'What do you think?' asked Heidi over the com.

'I can see a seam with what looks like a hinge on one side and fasteners on the other,' said Benny. 'I'm going to open it.'

'If it's sealed, there could be a bio-hazard,' said Heidi. 'Perhaps you should send Shawnee up.'

'Did you hear that, Shawnee?' asked Benny.

The girl nodded gravely.

'Up or down?' asked Benny.

'Down,' said Shawnee. 'But shouldn't we survey the rest of the chamber first?'

'Well,' said Benny. 'Strictly speaking, we should. But can you wait that long?'

Shawnee shook her head.

The scanner pinged again. The second scan revealed more surface details and the suggestions of shapes within the tube. Benny attached a pair of cordless bio-scanners. Shawnee helped her cut open an evidence bag and seal the edges around the hatch and scanners both.

The fasteners looked sophisticated, a series of interlocking slats that formed a lattice inside the outer shell of the tube. They registered as

ferrous and Benny tried the magkey on them first. The key took thirty seconds to get a purchase with its electromagnetic field and with an audible snick the fasteners were withdrawn. The bio-sensors stayed quiet; the hatch unlocked but its airtight seal was intact.

The scanner pinged for a third time and then added a sour tone to indicate that it, in its dumb machine opinion, had done all it could. This time, Benny could see regular, curved shapes clustered at each end of the tube and hollow lines that could only be pipe work. Shawnee had been right first time – it was a hibernation chamber. Blocked by the pipes, the scanner had failed to develop more detail on the actual occupant.

Benny put on her face mask and waited while Shawnee followed suit.

‘I’m opening the tube now,’ said Benny.

‘I really wish you weren’t,’ said Heidi.

Benny operated the magkey again. The hatch seal broke with a dry sucking sound. They paused for the bio-scanners to get a good sniff and when they registered an absence of airborne flesh eating pathogens she whipped off the evidence bag and got a good grip on the lid.

She really should have threaded in a remote probe first – a Martian archaeologist would have put a probe in first – but there was just no way Benny was prepared to wait that long.

The hatch swung up smoothly – whoever they had been, they’d built to last.

And the winner is...? thought Benny.

The hibernation chamber had kept it sterile, anoxic and dry – so the mummification would make exact taxonomical classification a slow process, but there was no mistaking general species. Benny recognised ten-limb radial symmetry the four eyestalks clustered around the grinding maw, five boneless manipulators and the outsized manipulator that had evolved into a vicious stinger.

‘It’s a potfish spider,’ said Shawnee.

‘Say again,’ said Heidi.

‘It’s definitely a potfish spider,’ said Benny. ‘Another big one, 120 kilos, prior to mummification.’

‘I’m coming down,’ said Heidi.

‘No, wait,’ said Benny. ‘Give me 15 minutes to set up a recording perimeter.’

‘Fifteen minutes,’ said Heidi.

‘This is very bad,’ said Benny.

Shawnee looked shocked. ‘Lots of archaeology,’ she said, gesturing around the chamber with her torch. ‘Lots of data and context, that’s good – nah so?’

‘Have you ever heard of the Protocols of Colonisation?’ asked Benny
‘Yes,’ said Shawnee. ‘We learnt about them from school.’

Benny was impressed, the Protocols were one of those big established facts that was so big and established that people usually forgot to tell the next generation. They had been established in – Benny couldn’t remember the exact year – the late twenty-second century to regulate man’s colonial expansion. It was rightly hailed as a triumph of principle over greed, although Benny always felt that the presence of at least 15 alien species, every single one of which had fought a war with humanity at some point, might have had something to do with it.

‘So you know that you’re not supposed to colonise worlds with indigenous sapient life?’ asked Benny.

‘Oh,’ said Shawnee. ‘If the spiders are the children of the people that lived here before...’

‘Then they have the same rights as a sapient species regardless of their current status,’ said Benny.

The good old Hibernation Clause. The Earth Reptiles and their allies had been very insistent about that section of the protocols. The whole conference had almost ended in a shooting war over the implications until a waiver was agreed – even so, it remained a cause celebre for every three-eyed greenie with a grudge and a heat gun ever since.

‘We didn’t know they were here.’ Shawnee was so plaintive that Benny realised she’d overdone it. People were always arguing exceptions to the protocols and it was possible to negotiate dual use of a planet – usually citing Earth and Mars as an example.

‘Shawnee, how much do you tell your parents about your archaeology?’

‘Lots, but I don’t think they understand very much,’ said Shawnee.

‘I’m going to do something very difficult and, actually, unethical,’ said Benny. ‘But you’ve got to trust me on this.’

‘Sure, Benny, go so.’

‘You mustn’t tell anyone about the potfish spider,’ said Benny. ‘Not your parents or friends or anyone. Do you understand?’

‘Yeah, Benny,’ said Shawnee.

‘Good,’ said Benny. ‘Let’s get a perimeter set up because Heidi’s not going to wait any longer than she has to.’

Heidi didn’t wait but they were ready. The big woman came down the line with polished ease, glanced at Shawnee and then looked at Benny.

‘If the word containment is heading for your lips, Heidi,’ said Benny, ‘you just keep them closed.’

‘If this leaks...’ said Heidi.

‘And it will leak,’ said Benny. ‘Sooner or later.’

Heidi glanced at Shawnee again. 'Then the xenomorph will hit the ventilation shafts and I have no idea how Lafayette is going to take this.'

'We have to confirm whether the potfish spiders are a successor species and we have to do it this week,' said Benny.

'And Pilar?' asked Heidi.

'Pilar won't keep silent,' said Benny. 'He's old-school.'

'How come you will?'

'Shawnee's people have been here for centuries,' said Benny, checking that Shawnee couldn't overhear. 'If I'm going to get them ethnically cleansed I want to make sure I've got my facts straight.'

'So what's next, boss?' asked Heidi.

'Next,' said Benny, 'we have a closer look at a live potfish spider.'

Part Two Excavation

There is no such thing as too much information.

Archaeology for Primates, Martian University Press (2534)

PROVISIONAL TIMELINE

YEARS AGO (STD)

C.21,000 KONDEEO BRONZE AGE

KING FROGGIE CULTURE (RADIO DATE: + / - 2,000 STD) KING
FROGGIE BURIAL

SITE REPORT J001-01 ANKOLA, HIDALGO

SITE REPORT J001-02 ANKOLA, HIDALGO, SUMMERFIELD

C. 15,000 EARLY IRON AGE (DISPUTED)

SHAWNEE REDWARE (RADIO DATE: + / - 2,000 STD)

FROZEN POTFISH SPIDER (RADIO DATE: + / - 2,000 STD)

SITE REPORT J002-01 SUMMERFIELD, LOPETI, AGANI

C. 15,000 LATE IRON AGE (DISPUTED)

ALPHA CULTURE (RADIO DATE: + / - 2,000 STD)

BON SUN SPINWARE

DOG PIT

SITE REPORT J003-01 HIDALGO

C. 10,000 PENINSULA ALUMINIUM AGE

BETA CULTURE (RADIO DATE: + / - 2,000 STD)

MECHANICAL COMPRESSOR

ANCILLARY WORKED ALUMINIUM FRAGMENTS

SITE REPORT J001 -03 MAPUTO, LOPETI

GAMMA CULTURE

SURVIVAL BUNKER/TOMB

SITE REPORT J001-04 (PROVISIONAL) SUMMERFIELD, BOONMEE

05: Forward Edge Battlefield Area

The stinger is about ten centimetres long,' said Chay. 'Very sharp and will go through your suit no problem. If it hits you in the torso or head, that's pretty much it; if it nicks a limb, we have maybe thirty to sixty seconds to take the antitoxin.'

'Why can't you take the antitoxin before you go down?' asked Benny.

'Because the antitoxin is pretty toxic itself,' said Chay.

'That's reassuring.'

'At least wear the combat armour,' said Chay.

'I'm not a soldier,' said Benny.

'No,' said Chay 'you're an idiot.'

'We're just going to capture one,' said Benny. 'Shawnee's people do it all the time.'

'Then let them do it.'

'Chay,' said Benny. 'If this really is a regressed sapient species, something nobody has ever found before, then I want to have a good look at where it lives before I let you dissect it – just in case.'

'I'm not worried about the spider,' said Chay.

'You're sure that there's one down there.'

'Absolutely.'

'What about slyfingers?'

'None in the area,' said Chay 'That's why we know there's a spider down there.'

'You know,' said Benny as she shrugged into her respirator, 'when I first got here you said that there was nothing native to the area to worry about.'

'Except potfish spiders,' said Chay.

'Shawnee's not worried,' said Benny.

'Shawnee knows that you'll be going in front.'

'Chay,' said Benny. 'I missed this piece of evidence entirely because I was too scared to get my feet wet. You of all people should know that an organism can only be understood within the context of its own environment. As the Goddess expects – so go I.'

'Don't do that,' said Chay.

'Let's get this shit over with,' said Benny.

'That's better.'

The face mask was a piece of memory plastic that squirmed against her face in search of a perfect fit – she always hated that bit. There was the sensation of suffocation as it sealed with her lips and then Benny breathed in with the same involuntary gasp that even hardened professionals made when using similar gear.

Chay tapped her on the shoulder to indicate that the rebreather was working. Benny had never used a cryogenic rebreather before but Heidi had assured her that it was squaddie-proof and a largely solid state.

Heidi handed her a predator stick and Benny jumped before she could chicken out.

Each of a potfish spider's four eyestalks saw in a different but overlapping spectrum that effectively covered everything from ultraviolet to infrared.

Given this range, and the fact the spiders reacted savagely to external light sources, Benny was diving dark.

She couldn't use a sonar handset because the spiders had an equally homicidal attitude towards noisy neighbours, so Benny was swimming with the latest In augmented passive sonar kits. Chay had dropped a series of pingers outside the spiders' territorial range – they broadcast pulsed signals and Benny's headset read the reflections to build up a three-dimensional picture of the environment in real time.

The HUD projection on her faceplate presented a brightly lit visual environment with 'natural plus' colour. The slightly unreal colours and the pixelation in her peripheral vision were a deliberate touch to ensure that she never forgot she was looking at a computer-generated image and not reality.

Benny let herself sink passively towards the bottom. Chay and Simone were fairly certain that she was starting outside of the spiders' response envelope but she'd designed her entry profile to be as much like a log falling into the water as possible – just In case.

Move along, thought Benny as she sank, nothing to see here.

Natural plus made the bottom an unpleasantly chocolate brown streaked with orange. When she touched down, a spray of slow motion debris rose around her and her HUD picked out half a dozen species of crawling, bottom feeding things rising and falling with the mud cloud.

Chay said the mud was a whole fascinating ecosystem in and of itself – a teeming three-layer rainforest subsisting entirely on the excreta and waste of the creatures living amongst the kwumtree roots. She knew that a desiccated river bottom made a wonderful time capsule for tracing ecological conditions but that's how she preferred them – desiccated. As the mud oozed around her arms and legs she realised what was so attractive about desert archaeology.

She stayed like that for a minute before activating the swimming flaps on her suit and gently lifting out of the mud. She did a slow 360° to orientate herself – the flaps which ran down the outside seam of her arms and legs moving her around via a series of smooth undulations.

The potfish pots looked like cave mouths rooted to the thick ochre slabs of the kwumtree support roots. Thinner feeding roots from various parasitical and symbiotic plants fell in messy tangles amongst the pots but always avoiding the lips of the pots themselves. The potfish secreted a complicated plant toxin and deterrent enzyme that kept them from strangling the entrances. Potfish spiders, according to Chay, had to clear new growth away manually.

We should have pegged them as intelligent ages ago, thought Benny.

And then she saw one.

It looked much bigger stretched out in its natural environment than frozen in the taiga. Underwater, the three pairs of legs' kicked together to propel the spider forward while the two pairs of arms were stretched forward into a point, just like a human swimmer. It came gliding around a thicket of roots not ten metres from Benny 's position – she was close enough to see the way the arms bent to guide the creature into turns and the way the eyestalks twisted in unison to maintain depth perception.

Then, with a brisk back stroke with all ten limbs, it stopped dead in the water and turned slowly towards Benny. She tried to stay calm but there was no doubt about it: the potfish spider was definitely looking right at her. She knew the suit was hypoallergenic and a guaranteed seal – none of her biologicals was leaking into the water. Some animals were known to be able to detect the electrical activity in another's central nervous system but Benny was pretty sure that wasn't the case here. She was certain that the spider was looking her over and trying to figure her out.

You're looking at a Homo sapiens, thought Benny. One of the most dangerous sentient species ever to crawl off its home rock. Now I know what you're thinking, in all this excitement is she more scared of me than I am of her? So it all comes down to whether or not you feel lucky – well, do you, punk?

The potfish spider came straight for her and, damn, was it fast.

Benny jammed her thumb into her palm control, maxed her swimming flaps and took off at top speed. It was a total panic manoeuvre and it was only blind luck that she didn't brain herself on a kwumtree root. For a couple of seconds she concentrated on headlong flight but when she glanced back the spider was gaining.

'Chay. Can you hear me?' she yelled into her coms. 'I'm engaged, where the hell is your beacon?'

Shadows loomed ahead, the roots were getting thicker and the lake bed shelving upwards. She'd be on dry land in moments and not only was she not sure she could get out faster than the spider could catch her but that meant scrubbing the mission and there was no way she

was going through this again.

Chay's beacon appeared on her HUD registering loud and clear and directly behind her.

She jinked around a six-metre root, timing it to keep the tree between her and the spider. She felt rather than heard the vibrations as the spider's lead arms tore out chunks of bark as it tried to get leverage to turn faster. Benny had the advantage – her swimming flaps gave her movement along any axis – and she used it to turn tighter and stretch her lead.

On her HUD, the range-to-target numbers started rattling down towards zero as she twisted around a pair of closely placed roots and into a relatively open pool of water. The HUD was showing her the clear path and around that she could just see a faint shimmer where the camouflaged net was. Chay had estimated she needed a three-metre lead. Glancing back, she saw she had five; she had no intention of reducing that.

She went through the dead centre of the clear path and the range to target starting flicking upwards again. She glanced back just in time to see the potfish spider dart around the net with a nonchalant flick of its legs.

'Negative capture,' said Benny. 'It saw the net.'

'How could it see the net?' asked Chay.

'I don't know,' said Benny. 'Come down here and ask it.'

She was down to a three-metre lead and closing. Ahead, the kwumtree stands gave way to the freshwater slough. Out on the slough the water was shallow and there was no cover – she had to get out of the water and fast.

Instinct and blind fear made her throw herself to the left as the potfish spider barrelled past. A long, vicious shape that was already trying to turn as it realised Benny had ducked. The thing had out-swum the swimming suit, so there was obviously a turbo charge somewhere in its biology – which, fascinating fact though it was, could wait.

She saw cover on the right and waited for the spider to come around.

It came at her, micro bubbles glistened on its flanks, forward limbs extended like a grappling hook, and in the centre, between the closed mouth and the eyestalks, the stinger fully extended like the ram on a tireme.

Her nerve almost failed her but she waited until the last moment and went right and down, towards the dark shape that her HUD identified as reassuringly solid. There was a sharp tug on her leg and a sudden numbness below her ankle and suddenly her HUD started telling her things about the suit integrity that she didn't want to know.

Benny left the turn so late that her shoulder scraped painfully against a surprisingly even surface. The spider didn't make the turn at all, slamming into the shape with the unmistakable boing sound of a hollow metal structure. A cloud of red surrounded her: she took it for rust at first before recognising it as her own blood.

Benny did a one-legged push off and headed back towards the pool.

The spider flung a limb out in Benny's general direction. From the spastic motion of its legs, Benny thought it might be stunned but the way her luck was running she didn't plan to stay and find out how long for.

At least her HUD had a fix on the thing now, tracking its position as it came shooting after her. Her left leg felt completely useless and a weird lassitude was beginning to spread up her back. Benny needed depth and ahead was the only place she was going to get it. She kept pushing at her palm control but the swim flaps were already maxed and the potfish spider was gaining.

Then she was skimming the bottom, her wake churning up clouds of mud and startled bottom-feeders and shuttlemouth larvae. The HUD was blurring out but she didn't need it. She could feel the presence of the spider behind her, a growling violent disturbance ready to tear her to pieces. It was time – she began to angle upwards, curving gently to maintain speed and momentum until briefly she was hurtling vertically upwards.

And then she was in bright sunlight, propelled out of the water by her own momentum and up into the kwumtree canopy. A branch struck her face hard enough to daze her. She grabbed blindly but missed. She was reaching her apogee, the highest point of her jump and she didn't think the spider had wandered off in the meantime.

She grabbed again for another branch, rough bark and twigs tearing through her gloves and into her hand. She tried to swing her other hand over but she was starting to fall.

Then she had a double grip, the weight not just of her body but the rebreather yanking hard on the joints in her arms. She heard a splash below her, looked down to see the spider submerge. It had jumped but not high enough.

There was a smattering of applause and then Heidi screaming at the others. 'Get her down, get her down NOW!'

She didn't see what the rush was. She could hang there all day if she needed to.

She was shivering by the time they got her mask off and she really didn't like the way she couldn't feel her foot. 'They're intelligent, all right,' she said. 'I don't know about sentient but chimpanzee level at the least.'

Heidi pressed a bottle to Benny's lips and she swallowed something wet and sweet.

'If only you had similar mental powers,' said Heidi.

Chay clamped something to Benny's foot and she heard Shawnee squeal.

'How bad is it?' asked Benny.

'Just a flesh wound,' said Chay. 'Though you lost a lot of blood.'

Benny struggled up on her elbows to have a look. There was nothing below the blue-and-white medical patch on her ankle – her left foot was completely gone.

'Why doesn't that hurt?' asked Benny.

'A combination of shock and really strong painkillers,' said Chay. Benny slumped back. 'I'm very tired,' she said. 'Was she allowed to go to sleep? People in her situation in the sims got shouted at by their friends and then usually died. Is it all right if I sleep?'

'You relax, Benny,' said Heidi. 'We've got you now.'

'That's nice,' said Benny as she slipped away into a thick bowl of warm custard.

'Good morning, buttercup,' she thought she heard Heidi say. 'Mister daisy is happy to see you.'

And then it was nothing but custard.

She woke up in the health centre in Reconciliation. The doctors promised to grow her a new foot by her next birthday, but in the meantime gave her a temporary prosthetic. It slipped on like a shoe in the morning and, although the bio-feedback wasn't perfect, it got the job done. Benny tried not to think about it.

Heidi drove her home. 'Your first prosthetic,' she said. 'How does it feel?'

'Bizarre,' said Benny.

'I lost my right arm once and the prosthetic was weaker than the original.'

'Did you lose it in combat?'

Heidi laughed. 'Milking machine,' she said. 'When I was 14. I dropped my wrench down the front of the tanker storage rack. I reached in, the next tank rotated into position and rip – off it came.'

'Ouch,' said Benny.

'My mum was furious,' said Heidi. 'We had to jettison over a thousand litres of milk.'

'There's archaeology under the water,' said Benny, 'just beyond the kwumtree stands to the east of the main dig.'

'Are you sure?' asked Heidi. 'You were kind of busy down there.'

'Saved my life,' said Benny.

Swamp, taiga, desert and now underwater archaeology – Augustus Sod

proved himself once again. *Archaeology for Primates* seemed to regard an underwater dig as something that shouldn't happen in a well-ordered society. The Professor's notes were, as usual, copious but all theoretical, not practical. Benny got the strong impression that she'd agreed with the Martians – marine archaeology was for them that had gills.

You can't preserve in situ because the water moves everything about, poor visibility messes up the CAR units, which need to be rated for immersion, and even with everything in place it all takes four times as long.

And as a bonus prize for this particular location – one really pissed-off full-grown potfish spider.

In the end, Heidi dug a portable field generator – that Benny didn't know they had – from out of storage. They simply used a low-energy kinetic force field to create a perimeter and pump the water out. Shawnee called in some family, who knocked up a wooden jetty over the course of the morning.

'And so,' said Chay, 'underwater becomes a dry-land dig.'

Heidi looked down at a metre of mud and decay that made up the bottom.

'That's not dry land,' she said.

In the heat, the newly exposed mud was beginning to smell.

'Don't be so squeamish,' said Chay, who jumped and sank up to his waist.

Heidi made an unmilitary sound, dropped to her belly and made a futile grab for his arm. She only stopped when she realised that Chay was laughing.

'You thought that was funny?'

'Well, yeah,' said Chay. 'But that's not why I'm laughing.'

Benny looked down at Chay's grinning face and sighed. 'What's so funny?'

'I'm standing on something solid,' said Chay. 'Rolled steel, by the feel of it.'

Egg-shaped and six metres on the long axis, it was made of galvanised steel plates riveted together. It had only survived because of the anaerobic quality of the mud. Even so, rust had eaten away the underneath and fused the track bogeys into a solid red mass. But there was no mistaking what they were looking at.

'It's a bloody tank,' said Heidi.

'What's a tank?' asked Shawnee.

'A primitive type of AFV,' said Chay. 'Before they had antigravity.'

'How did the mag survey miss this?' asked Benny.

'We didn't do a mag survey here,' said Simone. 'We relied on the

initial colonial data.'

Benny slapped the side of the tank. Flakes fell off. 'And it missed this?'

'Shouldn't have. You can spot something that size from orbit up to a hundred metres under the bedrock.'

'I'm willing to bet,' said Benny, 'that the initial mag survey was completely bugged and that none of its data is reliable.'

Nobody wanted to take the bet.

Benny caught General Lafayette in civvies again. Lost in the privacy blur behind her head and shoulders were smudges of bright primary colours and the sound of children laughing and screaming.

'Is this a bad time?' asked Benny.

'Grandchildren,' said Lafayette.

Benny waited but that seemed to be all she was going to get. 'Orbital surveillance,' she said, 'is such an important part of modern warfare that I'm sure you have whole schools full of eager young trainees who are just crying out for some practical field experience. Luckily for you, I have just the project for them.'

'This is going to be expensive, isn't it?' asked Lafayette.

'But think of the practical benefits,' said Benny 'Have Lieutenant Agani action a proposal,' said Lafayette and terminated the call.

All the better to action her grandchildren, thought Benny slyly. If the initial colonial mag scan had been defective then a rerun, especially a military grade rerun, could have a radical impact on their understanding of Jaiwanese history. Push the context horizon back far enough to understand what this battle was all about. Lafayette had acquiesced much faster than Benny had expected and that was a worry. One had to assume that the general was thoroughly briefed about their progress and thought that a mag scan was good value beyond its training benefits. What was Lafayette expecting them to find – more battlefields, intact shelters, useable military hardware? Benny thought of the bone pit and shuddered.

Someone called her name outside the tent – a voice she didn't recognise.

'Come in,' she called.

An older woman stepped inside. A head shorter than Bernice she had a round face and delicately pale skin. Her lips were painted this season's shade of red and an azure butterfly stud was pinned to an eyebrow plucked almost into abstraction. This was definitely a media face, used to exposure. And, although Benny didn't recognise her, the woman's poise made her feel obscurely that she should.

'Summerfield Bernice?' asked the woman.

'That's me,' said Benny and immediately felt like a hick.

‘I’m Lola,’ said the woman in a way that indicated that there was no second name and that anyone who didn’t already know that should definitely get out more. ‘From Jaiwan Update Number *Two*.’

‘Have a seat,’ said Benny.

Lola sat in a whisper of expensive linen. Even Benny was taken with how beautiful her suit was but something about it bothered her and not just the terribly discreet recorder pinned to the lapel.

‘I like your suit,’ said Benny.

Lola smiled graciously, showing manicured teeth and Benny realised what it was that had bothered her. Lola’s suit was cut to de-emphasise the length of her legs and make her torso look longer. When she looked closer, Benny realised that the legs were unnaturally long and her torso too compact – like the body of a Dress-Up Daisy doll. Lola caught her looking and just for a moment a frown passed over her face like a ripple on a still pond.

Cosmetic surgery that faulty was rare, even on a backwater world like Jaiwan – it must have been a hell of an accident to take that much length off the woman’s torso.

‘How can I help you?’ asked Benny.

‘I’m doing a piece on your recent work,’ said Lola.

Benny glanced at the recorder pinned to Lola’s lapel and wondered if it was recording. ‘That’s nice,’ she said. ‘Is archaeology your usual beat?’

‘Yes,’ said Lola. ‘I’m the science correspondent. Does that surprise you?’

‘Yes,’ said Benny. ‘I thought fashion, gossip...’

‘Scientists like fashion and gossip too,’ said Lola.

‘And truth,’ said Benny.

‘Truth,’ said Lola. ‘The truth is tricky.’

Benny nodded at the recorder. ‘Is that off?’

‘If I said yes would you believe me?’

‘No,’ said Benny.

Lola grinned, undipped the recorder and slipped it into her pocket. ‘There.’

‘And your back-up?’ asked Benny.

Lola pointed to the stud in her eyebrow. ‘That’s never turned off but the data is strictly for personal use.’

‘Just in case you forget something,’ said Benny.

‘Just in case somebody challenges my credibility as a journalist,’ said Lola.

‘Does that happen a lot?’ asked Benny.

Lola made an elegant gesture by the side of her face that took in her perfect eyes and lips. ‘What do you think?’

‘I think I’m getting tired of fencing with you. What do you want?’

'I'm here to cover your dig,' said Lola. 'That's all.'

'Oh,' said Benny. 'Okay, then. What do you want to know?'

'Is it true that there is an indigenous sentient species living on Jaiwan?'

'There was definitely a civilisation on this planet prior to a transitional event approximately 10,000 years ago,' said Benny. 'We can't be certain that the species was indigenous until we have recovered enough of this planet's fossil record to trace its evolutionary descent.'

'So the short answer is...?'

'In the past – probably,' said Benny. 'Living on the planet now – that's what we're trying to find out.'

The Professor had once told her that you should always seek local assistance on any dig. 'There's no point trying to re-invent the wheel,' she'd said, 'when someone is selling bicycles down the street.'

'Shawnee,' said Benny the day after they'd dredged up the tank. 'Can you get someone to catch that potfish spider for me?'

'Sure,' said Shawnee and set off in her boat.

She came back with a boatful of cousins led by a young man so brown and dreamy that even Simone did a double-take. This was the legendary Ojen.

'Best potfish spiderman on the planet,' he said.

'Is that a fact?' asked Chay.

'We have competitions,' said Ojen. 'Otherwise anyone could say that – nah so?'

Benny nudged Simone. 'What happened to the polar orbit?'

'There's bound to be the occasional perturbation,' said Simone, 'in the face of bodies with substantial gravitational attraction.'

'Get out of here,' said Benny. 'He's so brown and fit and...'

'Fit,' said Heidi.

Shawnee was looking at them strangely. 'That's my cousin,' she said.

'We know,' said Simone.

'You want a date,' said Shawnee, 'you can talk to me.'

Or they could talk to Chay, who had already ingratiated himself with the cousins. Benny knew him well enough now to read him from a distance: they were telling stories and he was soaking up the new knowledge. Ojen made a swooping gesture with one hand and mimed veering away with the other.

Chay touched his own chest and Ojen grinned and nodded. Benny decided she was seeing a disaster in the making.

'Heidi,' she said, 'I think Chay's going to do something stupid.'

The big woman sized up the situation in one glance and beckoned Chay over. She bent her head over to talk to him. 'You're not going

with them.'

'I'll take precautions,' said Chay. 'And I'll hang back.'

'No, you won't. This is some macho bullshit and you're so childish.'

'If we're right then safely catching potfish spiders is going to be a skill that we need,' said Chay. He turned to walk away.

'You're not going down with Shawnee's cousins,' said Heidi. 'And that's an order – do you understand me, Specialist?'

Chay stopped and turned back, his face carefully neutral. 'Understood, Captain.' He pushed past Benny and walked back towards the camp.

'Oh, fuck,' said Heidi.

'That's why they have regulations,' said Benny before she could stop herself.

Heidi fixed her with a glare. 'Benny, you really do have a reckless disregard for your own safety, don't you?'

Benny made a fast tactical withdrawal back towards the hunting party. She wondered if it was too late for her to volunteer.

'I hear one snapped off your foot,' said Ojen.

'At the ankle,' said Benny.

Ojen looked impressed. 'This spider here did that?'

'The very same.'

Ojen was wearing nothing but a pair of swimming shorts and a face mask.

There were beads of sweat on his pectorals and shoulders. 'Tough spider?'

'Yeah,' said Benny. 'Are you really going in dressed like that?'

'Of course,' said Ojen. 'I'm not planning to go to war with it. I'm going to trick it into the net.'

'How?'

'Promise to keep it secret?'

'Promise.'

'If you curl up into a ball, they never attack you,' said Ojen.

'What, never?'

'Never have so far,' said Ojen.

They made it look so easy. Ojen dived into the pool and half an hour later they were winching a living but very pissed-off potfish spider into a travelling tank. Ojen climbed out of the water and waved something at Benny – it was her flipper.

'There better not be a foot in that,' said Benny.

Ojen laughed and turned it to show it was empty. 'Souvenir,' he said. 'I figure you're a potfish spiderwoman now.'

'Aren't you supposed to catch them?'

'Yeah,' said Ojen. 'But living through your first encounter is close

enough.'

'Is there a club house?' asked Benny.

'No,' said Ojen. 'But I'll buy you a drink.'

'Maybe later,' said Benny

'Maybe,' said Ojen. He gave her an ironic salute with the flipper and strolled off to where the cousins were admiring their catch.

'I can't believe you just turned him down,' said Heidi.

'He's not my type,' said Benny.

'Some of us are polar,' said Simone, 'some of us are equatorial, but Benny is...'

'Picky,' said Benny.

'Unable to get her blue touch paper lit,' said Heidi.

With the potfish spider gone it was safe to survey the site and as a result nobody saw Simone for five days. She turned up the next Eightday afternoon at the post-nornbai briefing with a grin and a detailed map of two square kilometres of the coast.

'There's tons of stuff down there,' said Simone. 'Machine guns, autocannons, tanks, mortars and massive amounts of kit. And the bad news – unexploded ordnance.'

'Unexploded?' said Benny. 'After ten thousand years?'

'Be a little cautious,' said Simone. 'You wouldn't want to lose another limb.'

'You lose one foot,' said Benny, 'and they never let you forget it.'

'That's a big battle,' said Chay.

'What do you think they were fighting about?' asked Heidi.

'Territory, resources, pride,' said Benny 'Something pointless like that.'

'Not freedom or justice, then?' asked Chay.

'Doubt it,' said Benny.

'So young,' said Heidi, 'and yet so cynical.'

'Realistic,' said Benny. 'Most wars are about greed. Check the statistics if you don't believe me.'

'I'll rephrase,' said Chay. 'What do you think they thought they were fighting for?'

Benny drove herself to the health centre for the operation. They offered her a choice of anaesthetic and she chose to have local because she'd heard that there was always a tiny chance you wouldn't wake up. The re-attachment took just over an hour and the only startling part was the sensation when they sanded the ends of her tibia and fibula to ensure a good seat for the adhesive. She half expected them to ask her to wriggle her toes but they used a machine to stimulate the nerves in sequence and ensure it was all connected up correctly. Then they wrapped foot and calf in an off-white polymer

cast, which they said would shed itself automatically after two days.

She thanked the doctors for their hard work and they assured her that it was their pleasure and, anyway, 'Feet are fun.'

When she got back, they threw her a surprise birthday party.

According to the Martians, human beings celebrate their birthdays out of an atavistic need to retain a link to the eternal cycle of the seasons. Benny half agreed with them. As far back as she could remember, her birthday had never been in sync with the local seasons: if you celebrate once every standard Earth year and the local year is a third as long again nothing is ever going to match up.

They'd been very keen at her last boarding school on celebrating birthdays.

The lucky girl got to choose the colour of the icing on her cake and there was, night exercises permitting, compulsory jolliness in the refectory. It was one of the reasons why Benny ran away, and since then she'd rarely been with the same set of people long enough for it to become an issue. As a result her first surprise party was, much to everyone's amazement, a genuine surprise.

'It never occurred to you that we were going to throw you a party?' asked Chay.

'No,' said Benny. 'You guys nearly gave me a heart attack.'

Simone looked at Heidi. 'What do you think?' she asked.

'I think she's sincere,' said Heidi.

They'd rigged a bonfire on the one bit of almost-beach by the camp and Chay was presiding over a barbecue improvised out of a soil-sifting rack and a forming frame. He was grilling up a medley of peninsula favourites but not, thankfully, potfish spider. He caught Benny's queasy look. 'Got to get back on the horse,' he said.

'Some horse would do me nicely,' said Benny. Which is funny if you mix alcohol with the aftermath of a local anaesthetic.

Pilar, down from the desert, gave her his personal chromatic-variation key for judging stratigraphy in a desert environment. It was essentially a healthy chunk of Pilar's life's work and Benny didn't know what to say.

Heidi gave her a gun, a small but heavy palm-sized piece of kit. 'Ladygun,' Heidi called it. 'Basically, a compact needier. The action's largely non-mechanical and the recoil is very smooth.'

'Heidi,' said Benny. 'I'm a terrible shot.'

'Right,' said Heidi. 'That's why this is the gun for you. I'll just put it somewhere safe for now. You can try it out later.'

'And this one,' said Chay, 'is from all of us.'

The present came wrapped in printed hardcopy and was held together with labelling tape and a genuine ribbon bow. 'I tied that,'

said Simone proudly as Benny floundered with the knot.

Chay passed her his knife and she cut through tape and paper to reveal a brand-new jacket. She looked at the label and saw the 'cow in top hat and tails' logo that proved that it was genuine leather. Heidi took it and held it open while Benny slipped it on. Although it had been pre-stressed, it was stiff and brand new and smelt of upholstery.

'Genuine leather,' said Chay. 'From something that was definitely related to a cow at some point in the last six centuries.'

'It has a ballistic cloth lining for extra toughness,' said Heidi. 'And plenty of interior pockets for emergency kit and evidence bags.'

Somebody, probably Heidi, had made some shrewd guesses about Benny's research into the late twentieth century Benny figured it probably wasn't espionage if you did it for present selection and the jacket was undoubtedly the best birthday present she'd ever received.

She struck a pose. 'All I need now,' she said, 'is a hat and a whip.'

Looking back, Benny realised that they must have known at the time of the party and that would explain the shrillness that had tugged at the edge of the celebration.

It certainly explained why Heidi kept touching her that evening, holding her arm, throwing a companionable arm around her shoulders. Or she could have been trying to make Chay jealous. It definitely explained why Heidi and Chay drifted off together at the end of the party, because the next day all the kissing would be over for good.

They told her the next day at the breakfast meeting.

'Benny,' said Heidi. 'We've been ordered back to our units.'

'Is this some kind of training thing?' asked Benny.

'No,' said Heidi. 'Our units are being redeployed to the front.'

Benny called Lafayette. 'I'd like a word,' she said.

'I thought you might,' said Lafayette. 'I'll send a flitter.'

Benny had to wait less than half an hour for her ride and during that time everyone else stayed well clear. The flitter was a four-man civilian VTOL which had been militarised with a stealth skin and ECM pods slung from its dorsal pylons. She climbed in through the side hatch and refused the headset offered by the co-pilot. She barely noticed the obligatory three-g take-off.

Twenty minutes at Mach 3 saw her landing at a base the size of a small city that wasn't marked on the map. An open-topped ATV was waiting for her by the landing platform.

Benny had spent the first eight years of her life on bases just like this one.

Neat little prefab semis arranged around loops and culs-de-sac of road grass.

Schools constructed to twenty-digit specifications depending on base size and climate conditions. The same clusters of franchise shops set at carefully calculated distances apart – Kwik-Kurry, Club Banana, Red Star Regiment, Sally Pom Pom, Candyland and Sno-Schmo. There had been a time when Benny's very definition of happiness had been a double-cup, triple-scoop chocolate-chip special from Sno-Schmo.

Headquarters was precisely where Benny expected it to be – near the centre of the base but closer to officer country than the enlisted housing.

General Lafayette had a major for her personal assistant and a large, open-plan office with discrete areas for her to act out her several roles: the big, intimidating, buck-stops-here desk with a stretch of worn carpet in front of it; the large map table and simulation suite for conferences and planning; the comfy leatherette sofas and coffee table for being a relaxed people person and placating civilians.

'The 10th Armoured Division is deploying to the Wolf Stars,' said Lafayette.

'Captain Maputo and Spec Lopeti are assigned to their headquarters element. Lieutenant Agani is with the 234th Orbital Artillery company, which is attached.'

'No.' Benny couldn't stop herself speaking.

'I'm sorry, Bernice, but in the end they're serving personnel – this is what they've trained for.'

'But I need them.'

'I'll be sending you a new crop of budding archaeologists,' said Lafayette.

'Your section of the programme is over-subscribed already.'

'How long do I have them for?' asked Benny.

'They can do their refreshers in transit so there's no reason why they can't stay the full four weeks,' said Lafayette.

'Can I have their replacements before they go,' said Benny. 'Smooth over the transition and send some to work with Pilar at the desert site.' It was amazing: she was speaking, stringing together rational sentences when all she wanted to do was to grab the paperweight on the general's desk and smash the evil, complacent bitch's face in.

'Sounds feasible,' said Lafayette. 'I'll put the paperwork in motion.'

She'd do it quick, before the general could react or raise the alarm. One good smack would cave in the occipital ridge, a second would send a loop of blood splattering across the wall.

'Bernice,' said Lafayette. 'Are you feeling all right?'

'I'm fine,' said Benny and she was – really.

On the way back, she made her driver stop at the nearest franchise cluster and wait while she slowly and deliberately ate a double-cup,

triple-scoop chocolate-chip special at the local Sno-Schmo. She gave the girl behind the counter a sunny smile and hopped back in the ATV, which returned her to the landing pad and the waiting flutter.

She threw up the ice cream five minutes after take-off.

Benny was amazed to find that she still had the capacity to throw a sulk. She was a grown woman and it wasn't as if sulking had worked at her boarding schools either. Not that Heidi was going to let her get away with sitting alone in her tent.

'We want to go,' said Heidi. 'We're volunteers, Benny.'

'Did you know what you were volunteering for?'

'Does anyone?' asked Heidi. 'We know what we're volunteering to fight.'

Benny felt her mouth twisting down. This war is just a machine for grinding kids into chutney,' she said. 'Do you really think you're going to make a difference?'

'I'm going to have a damn good try,' said Heidi. 'We don't want you to come or anything.'

Benny wanted to say that she had no intention of going and if they wanted to throw their lives away then that was their business.

'What do you want me to do?' It came out plaintive and embarrassing.

'Help people get a life,' said Heidi. 'Unravel the mysteries of this planet, finish the dig and, most importantly, don't take on any more full-grown potfish spiders.'

The next day an impossibly muscular young man was waiting for her in her tent. He had dusty olive skin and a nice even two millimetres of blond stubble on his skull.

'And who are you?'

'Specialist, first class, Ming Yi El Torres-Fargo, ma'am!'

'And what are you here to do, Specialist?'

'I'm here to get a life, ma'am.'

Benny had to smile. 'And which life did you have in mind?'

'I am to assume responsibility for administrative operations and act as assistant to the field director,' said the boy.

'And that would be me?' asked Benny.

'So I have been informed, ma'am.'

'Do you answer to Ming or Ming Yi?'

'Neither, ma'am,' said the boy. 'Everybody calls me Fargo.'

'Just be thankful it isn't El Torro,' said Benny.

'Yes, ma'am,' said Fargo.

Benny pointed to her desk, improvised out of two packing cases and a sheet of fibreboard. 'This,' she said proudly, 'is the mighty beating heart of the operation. From here, we can supervise everything that

goes on in front of the tent. Are you sure you're ready to take up the burden?'

Fargo grinned. 'Yes, ma'am.'

'You'll do,' said Benny.

The next Nineday, Chay insisted that they all drive into Reconciliation for lunch at the same restaurant he and Benny had stopped at when she'd first arrived. Pilar and half the desert team travelled down by train to join them.

He also invited Lola, who turned up fashionably late.

Simone patted the empty chair next to her. 'Over here, Lola,' she called.

Lola gave Simone a sly smile and sashayed over.

Benny had the vegetarian steak option. Everyone else had potfish spider gumbo with fried shuttlemouth, seagrass, saltnut, deep-fried kelp and salad.

After cheese and water biscuits, Chay judged them satiated enough to stay in one place for his lecture. 'Modern potfish spiders,' he said, 'are not sapient but they are not sapient in a very interesting way.'

'I've met some people like that,' said Heidi.

'I've christened them *Natatio consecratio*,' said Chay.

Benny saw Pilar's lips move as he dredged up his Latin. 'Swimming hunter,' said Pilar.

'Precisely,' said Chay.

'In dog latin,' said Pilar.

'Hey,' said Chay. 'The guys in biowarfare wanted to call it velocoshrimp and Simone wanted to call it the Kondeeo footbiter. There are slight differences with the frozen specimen we found up north so we have christened him *Natatio glacialis* and much greater differences again with the desiccated specimen found at the Kondeeo shelter, which for reasons that will become clear we have named *Natatio sapiens*.'

Lola interrupted. 'It was sapient?' she asked. 'Are you sure?'

'It was a tool-user and the equipment in the shelter was designed to be operated with its forward limbs,' said Chay. 'I'd say sapient is the way to bet. Anyway, *glacialis* and footbiter, sorry I mean *consecratio*, are physically identical except that *glacialis* is larger.'

'Based on a sample of one,' said Simone.

'Based on a sample of five,' said Chay. 'We went back and dug some more up.'

There were moans and calls of 'site report' from around the table.

'It's in the database, you lazy buggers,' said Pilar. 'Some of us are 'professionals'.'

'However, there were significant physiological differences between

both those variants and *Natatio sapiens*. Instead of a stinger, *sapiens* has a semi-articulated tentacle, which I believe could grip and manipulate in the manner observed in some non-terrestrial species. It had similar adaptations on its forelimbs which I've already talked about.'

'Larger brain?' asked Lola.

'No,' said Chay. 'The body-to-brain-mass ratio is roughly the same and there are no indications from convolution density or neural indexing that there is any difference in cognitive capacity between *sapiens* and the other two.'

'You know,' said Pilar, 'I swear he said that this was going to be interesting.'

'Okay,' said Chay. 'Short version. Modern potfish spiders are not sapient because they are not using a substantial part of their brains. The biowarfare unit fitted sensors onto the spider that Shawnee's cousins caught and released it into a controlled environment. As it went about its happy existence of disembowelling, rending and killing, they noticed that about seventy per cent of the brain just wasn't used.' Chay let that sink in. 'I've checked the literature and there are no reported examples of any species anywhere in known space who fail to use their existing brain capacity. And there are currently no theories within our understanding of natural selection that would account for a reduction of this type.'

In biological terms, brains were expensive and difficult to maintain. You certainly wouldn't want to lug around all that oxygen and nutrient-hungry grey matter unless you had to. Benny thought she knew where Chay was going with this.

'Could they be a reversion?' asked Heidi. 'Brought about by the post-impact ecological trauma. Massive environmental changes can have some peculiar effects on species.'

'We would consider that,' said Chay, 'if wasn't for the fact that the *glacialis* spider can be firmly dated at 10,000 years plus, either before or at the same time as the impact event.'

'You think they're genetically engineered,' said Benny. 'Don't you?'

'No,' said Chay. 'I think the *glacialis* were physically altered after they had reached maturity. I just don't know why they would pass on these characteristics to their children.'

'Hang on,' said Pilar. 'Are we talking about an engineered servitor caste here?'

That's what it looks like,' said Chay. 'There are precedents, extraterrestrial precedents. Hell, there are precedents on some human colonies.'

There were several alien species with servitor castes, a group of individuals mandated by custom or biology to a service role. Some of

them were naturally occurring and others the result of genetic engineering. One or two had engineered servitor castes – individuals who were modified in adulthood to act as servitors. The reasons for modifications were various: as punishment for criminal or social transgression, for debt, or because they were on the losing side of a war.

Similar atrocities had been committed on human colonies, most notoriously on Shanzu in the Centaurus Drift, where an extremist government had chemically lobotomised the male half of the population.

‘Shanzu,’ said Pilar.

‘Not that anyone noticed the differences,’ said Heidi and then yelped as Simone kicked her under the table.

‘Could they be a warrior caste?’ asked Lola.

‘That’s what I think they are,’ said Chay.

‘Just like us,’ said Heidi softly.

Shawnee stayed away and Benny would have too if she could have. They kept it low-key, just bundling their kit bags into the ATVs before breakfast, a hug here, a handshake there. A few last-minute instructions to their replacements. Heidi handed Benny a chip with all their military ID codes and correspondence protocols. ‘Keep us updated on the dig,’ she said.

Chay gave her a hug that was aiming for fraternal but ended up being vaguely suggestive. ‘If the war ends suddenly,’ he said, ‘we’ll come back and finish the dig.’

‘Sure,’ said Benny. ‘Good idea.’

Simone kissed her briefly on both cheeks. ‘You’ll understand one day.’

But she didn’t and she doubted she ever would.

06: Dry Storage

‘Well,’ said Benny a month later, ‘what kind of trouble can we get ourselves in now?’ You can only mope for so long, she decided, before you start boring even yourself.

Fargo passed her a hardcopy picture. ‘Danzig sent this,’ he said.

‘Who’s Danzig?’

‘Archaeological surveyor.’

‘Right.’ She still couldn’t reliably remember the new names, except for Fargo but only because he’d made himself ubiquitous.

Danzig had been organising Simone’s notes on possible city sites while they waited for Lafayette to organise the mag scan. The hardcopy was a follow-up to the trawl through the planetary archives that Benny had ordered – she had to think about it – two months earlier.

Benny read the hardcopy. ‘And they just filled them in,’ she said.

Fargo had obviously skimmed it beforehand. ‘Apparently so.’

According to Simone’s interactive notes, it wasn’t really desert as such.

‘Far too much water,’ she said. ‘Three big valleys to the east as catchment areas feed into aquifers, which probably fed into an artificial wetland here.’

Artificial wetland was Simone’s preferred term for the massive construction programmes that the precursor Jaiwanese undertook to make their habitat as wet and muddy as possible. Precursor Jaiwanese was yet another attempt to come up with a replacement term for the extinct locals.

Shawnee was adamant that she was going to use froggies until somebody came up with something better.

This artificial wetland had been a series of meandering creeks sculptured out of a depression east of an ancient mountain range, which Simone had referred to as ‘degraded’. Benny assumed that they had once been prim and proper mountains who had let themselves go and fallen into gin and debauchery, but when she mentioned this Pilar just told her to stop reading Jane Austen. Benny smiled in the face of such ignorance – she’d really been thinking of Hogarth’s *The Rake’s Progress*.

It wasn’t much different from Pilar’s site in the desert, which was why Simone hadn’t given it more than a cursory look. However, it was on the Pinky-and-Perky axis and civil engineers had uncovered a tunnel system while constructing a reservoir. Amazingly, this had been early last century but other than filing a report with the local municipality they’d just sealed the entrances and finished the job.

‘Civil engineers,’ said Simone’s notes. ‘If it isn’t in their contract they don’t give a damn.’

One of the engineers had at least had enough sense to put the words archaeological interest in her report and thus it had been caught by one of Simone’s spiders during a trawl of the net and had risen up through the levels of active filters like a plastic doll’s head in a cesspit.

Since there was a railway station practically on its doorstep, Benny decided to take the train. Shawnee, who was finally bored of battlefield archaeology, invited herself along.

Rembrandt, where the train stopped, was, strangely enough for a planet of Jaiwan’s low population, a tourist destination. Just to the north-east was the painted desert, where erosion had carved a series of buttes and canyons out of the arid plain. According to Shawnee, enthusiastically paraphrasing from the guidebook, copper, cobalt and iron oxide deposits had stained the rocks lurid colours, creating a fantastic tableau that was beyond your imagination.

Perky had anticipated the development, laying out the streets of Rembrandt in a series of concentric half circles up the gentle slopes of Abraham’s mount.

The view from the top was supposed to be very fine, especially at sunset.

Benny booked herself and Shawnee into the Painted Lady Inn, opposite the train station, trying to strike a balance between cheapness and cleanliness.

Shawnee at least had the good grace to wait until Benny was in the fresher before jumping up and down on the bed.

It was too late to go out to the site that afternoon, so instead she and Shawnee strolled down Rembrandt’s main drag in search of supper and entertainment. Most of the houses had been faced with the local stone which turned a startling shade of yellowy pink in the evening light. On the drag, the older houses were built around courtyard gardens with shops on the ground floor and delicate wrought-iron balconies facing onto the street. Pinky had specified the design when he laid out the town and Benny recognised it as pre-invasion New Orleans. Like many a young person in love, Pinky had gone looking for inspiration amongst the classics – for some people it’s poetry and for two-thousand-ton, autonomous civil engineering systems it’s architecture.

Shawnee picked an open-air restaurant that faced a neat little square near the end of the main drag. The menus were handwritten lists slipped into leatherette folders and Shawnee laughed out loud at the prices for buttonmonster in butter and potfish steak flambe. Because it was a change, Benny had chicken and dogpig pie while

Shawnee went for the genuine vat-grown beef steak. The Professor had always chided Benny for drinking beer with her meals so she asked the waiter's advice and ended up paying more than she planned on a bottle of red. The wine was clear but richer than Benny expected and she took a moment, as the Professor had always advised, to savour it. The label had a picture of a fierce, little, bearded man in a helmet – Koom Valley Muvrad it was called. Benny let Shawnee have half a glass.

'That man is staring at us,' said Shawnee over sherbet and ice cream.

Benny, lingering over the last of the Muvrad, glanced over and saw that a young man at a nearby table was indeed, rudely in fact, staring at them. He wore a nose stud and eyebrow ring and his brown hair was grown long on one side of his head and flipped over to hang on the other side. It was, Benny decided, the worst haircut in known space.

'Maybe we're famous,' said Shawnee.

Bad Haircut nudged the woman next to him and she looked up. She was older than the man with soft, pleasant features cantered around a snub nose and freckles with her hair in the same ludicrous flip over. She gave Benny such a look of venomous hatred that Benny involuntarily looked away. 'Have you finished?' she asked Shawnee.

'Do we have to go?' Shawnee obviously hadn't.

'No,' said Benny. She wasn't going to have her mood ruined by people with bad haircuts. 'In fact, I'm going to have another bottle of wine.'

She made a point of not noticing the pair when they left 23 minutes later.

As she'd expected in a tourist town close to the mountains, there were several shops downtown that rented climbing equipment. She had her PDA sort through their price lists and consumer history and checked the highest rated first. She pushed open a door into a contrast: a dim cave full of the smell of dusty leather and coiled nylon.

The shop had the biggest air-conditioning tree that Benny had ever seen.

The monster trunk grew from right above the front entrance and across the entire shop interior and through the far wall. Off the main trunk sprays of hollow branches leaked cool air into the room. The species had evolved amongst the complex cave systems of the Noctis Labyrinthus, a living heat exchange where the tree sucked in hot air and used the heat energy to drive its metabolism. They were amongst the oldest species on Mars and adapted readily to hotter, moister planets. Their rusty red colour blended well with Jaiwanese

vegetation and Benny made a mental note to keep her eyes out for other Martian transplants.

The man behind the counter looked like he was in his mid forties but had the fine wrinkles around the eyes and mouth that Benny associated with older people on good medical care. He looked up as the door closed and gave them a pleasant nod.

‘Help you?’ he said.

‘We’d like to hire some descent equipment and somebody to watch the top while we go down,’ said Benny.

‘You and your daughter?’ said the man.

‘My apprentice and I,’ said Benny.

‘Down where?’ asked the man.

Benny got out her hardcopy and showed the man the map. ‘We think there should be a shaft descending five hundred metres into the rock.’

‘You’re wasting your time,’ said the man. ‘That’s the Nana-she-wallow. There’s nothing under the sand but rock.’

‘Then we’ll have hired all this equipment for nothing,’ said Benny.

‘Fair enough,’ he said and stuck out his hand. ‘My name is Holgon. I’ll be your descent master on this trip.’

The Nana-she-wallow was a rough semi-circular depression a couple of kilometres to the east of town. Holgon drove them out in an open-topped hydrogen burner with terrible suspension. ‘Do you have to hit every single pot hole?’ asked Benny.

‘Sorry, frau,’ said Holgon. ‘Suspension’s set this way for the tourists, you know. Give them that authentic outback feeling.’

Benny checked her PDA. ‘We need to be more to the east,’ she said.

‘Nah,’ said Holgon. ‘Got some deep sand east of here that’ll just swallow us up if we don’t watch it. We need to roll round the edge.’

‘Just don’t roll round and miss the spot,’ said Benny.

‘Nah worry,’ said Holgon. ‘Not that there’s anything there, mind you.’

‘That’s what we’re here to find out,’ said Benny. She hoped that Danzig and Simone were right because Holgon was really beginning to get on her nerves.

They pulled up at an interchangeable bit of desert and unshipped the ground breakers. Each device was a metre-long pole with a spike on the end.

It was surprisingly hard to drive them any distance into the earth.

Shawnee had been alarmed when Benny first explained what the ground breakers were for. ‘Shouldn’t we dig and record,’ she asked.

‘That’s what being an archaeologist is all about,’ said Benny. ‘Knowing when to scrape, knowing when to dig and knowing when

to... accelerate things a little.'

They pulled back the recommended twenty metres – and then another twenty metres – before Benny yelled, 'Fire in the hole,' and hit the detonator stud. There was a muffled crump and a neat column of sand blew ten metres straight up. The really clever bit was the way the directional explosives had been designed to deposit the debris in a neat ring around the hole.

'Like a hill fort,' said Shawnee.

Testing the sand with a sand pole, Benny edged forward until she could see over the lip of a new crater. Danzig had been right: the explosion had exposed the straight edge of another shaft, although this one was larger and, judging by the concrete Benny could see, in much better condition. The range finder registered two hundred metres straight down.

Thank you, Danzig, she thought. From now on, I will make a point of remembering your name.

Benny pulled a flare from her pack and told the others to stand back. She twisted the ignition tube, waited for the tip to flare and dropped it down the shaft. It fluttered down, revealing smooth concrete walls in a rectangular cross section. There was a distinctively dry bounce at the bottom and, more importantly, nothing exploded.

'Shawnee,' she called. 'We're in business.'

The descent equipment was a three-metre-high tripod whose point met over the pit. An easyclip harness strap hung from a centre pulley, but the winch itself was sitting securely in the back of Holgon's hydrogen flatbed. It was rated to 20,000 kilograms. Even so, Holgon wasn't entirely happy with the feet being so close to the crater and made them wait while he checked their seating. 'You made me descent master,' said Holgon. 'And it's bad for business to lose famous archaeologists.'

'I didn't know I was famous,' said Benny.

'Caught the update with Lola,' said Holgon.

'You want an autograph,' said Shawnee, 'you talk to me – I'll sort you out.'

'Shawnee!'

Shawnee gave her a crooked grin and stepped into her harness. Benny checked her own leg straps and the judas clip that would hold her to the easyclip. Then she made Shawnee hold still while she checked the girl's harness, paying – because Heidi wasn't there – special attention to the waist cinch. Shawnee didn't have much in the way of hips so she had to watch it couldn't tip her out. I'm doing it now, Heidi, thought Benny, and her judas clip – this isn't our first descent, you know. She pushed the test stud on Shawnee's canary

badge and was rewarded with a green light. She repeated with her own badge and when that too showed green she had run out of safety checks and it was time to go down.

They clipped onto the harness strap and made sure they hadn't forgotten anything. 'This is just a quick recce,' said Benny. 'If we lose coms for more than an hour, call the emergency number.' Holgon didn't suggest that he should follow them down, which inspired more confidence in Benny than it merited.

Benny and Shawnee swung out over the shaft and let the rig take their weight.

'Lower away,' said Benny. Holgon gave them the thumbs up and down they went. 'Look out for markings,' said Benny. 'The more variety we record the easier it is for the translation programs.'

Benny could feel Shawnee rolling her eyes. Of course she knew that – probably knew the current symbol-frequency-distribution numbers off by heart. Fourteen identifiable symbols from Pilar's desert site, three from the Taiga, 200 plus from the shelter and none of them helping much. The Professor's database had a selection of translation programs, including the famous Smelly Flowers, which cracked the Yamayan Rose text in the twenty-third century – none of them had made a dent in potfish spiderese.

They halted twenty metres down when Benny spotted a pair of massive hinges anchored into a thick concrete shelf. They unshipped their recorders and got as much coverage as they could.

'That must have been a thick hatch,' said Shawnee.

'At least a metre thick,' said Benny.

It was obvious that the hatch had been seated on concrete shelves set on opposite sides of the shaft – they were relatively undamaged. Assuming that it was only hinged on one side, Benny couldn't see how the hatch could have fallen down the shaft without taking the shelves with it. She recorded a note to herself and then, after a last quick visual sweep, signalled Holgon to restart the descent.

They found three more missing hatches on the way down, judging from the remains of its mountings the last one had been just over two metres thick.

'Once is an accident and twice is a coincidence,' said Benny. 'But three times is enemy action.'

'Do you think they were blown down?' asked Shawnee.

Benny looked up to the rectangle of daylight at the top. 'We are talking about 10,000 years,' she said. 'All sorts of things can happen over a period that long. But we know they fought wars against each other – easy enough to drop a smart bomb down the shaft.'

'Is that our working hypothesis?' asked Shawnee, who had obviously started in on the book list Benny had given her.

‘Good idea,’ said Benny as she signalled Holgon. ‘So, assuming that this damage was caused by a smart bomb, what do you predict we’ll find at the bottom?’

‘Depends on the type of bomb,’ said Shawnee.

‘Assume a tactical nuclear weapon, say five kilotons,’ said Benny.

‘According to *Primates*,’ said Shawnee, ‘there should be a vapourisation chamber surrounded by blast conduits and residual radiation.’

‘We’d better keep an eye on our canary badges,’ said Benny, ‘Martians have different ideas about safe levels of radiation from humans.’

There was debris at the base of the shaft; shattered chunks of some kind of composite material littered the floor. Benny guessed they might be the remains of the hatches. There was no globular vapourisation chamber, or radiation, or any other indication that a nuclear weapon had been used.

‘Still,’ said Benny, ‘I’m willing to bet next month’s chores that something came down that shaft and smashed in the hatches.’

‘Simone would know,’ said Shawnee.

Benny wasn’t so sure. The base chamber was circular and high-ceilinged with cylindrical corridors leading off like spokes from a hub. The floor was covered in a layer of dry sand and Benny was sure that the chamber had been designed to be flooded to the depth of at least a metre.

They undipped and hammered in a rock anchor for the cable. Bernice attached the relay bulb at shoulder height, where it would have unrestricted line of sight down most of the tunnels. When she tested it, Holgon came through loud and clear.

They put down three CAR units for an initial sweep and, while it processed, had a quick scrape directly below the shaft. It didn’t take Benny long to uncover curved fragments of laminated armour – exactly what you’d expect to be used in a bunker bomb.

Close by, there were large chunks of hatch scattered in a rough circular pattern below the shaft. Evidence, then, of a small explosion, possibly for dispersing a chemical or bacterial agent. It still didn’t make sense: if the bunker had been built to survive an oncoming planetoid strike why would anyone want to destroy it?

‘This is so weird,’ said Benny.

The CAR units signalled that they were finished and had downloaded copies into Benny’s PDA.

‘We’re moving off,’ Benny told Holgon.

‘Roger,’ he replied.

Benny told Shawnee to pick a corridor – she chose to go north.

The corridor was long and built with an unnerving twist left and

upwards so that she constantly felt off-balance. Every ten metres, she and Shawnee would slap a temporary light-strip onto the ceiling. The undersides of the light-strips had contact adhesive and the light itself would last for two weeks.

They came to an opening on the left, an oval thirty centimetres above the floor, big enough for a man to climb through and a convenient size and location for a potfish spider to swim into. On the other side was a circular room with a high-domed ceiling, which seemed oddly familiar to Benny.

There was something about the proportions.

‘Storage tank,’ said Shawnee.

She was right. There were obvious vents in the ceiling and the walls were lined with an impermeable ceramic finish that Benny recognised from the First and Last Chance. She found a crack in the wall and worked a probe inside to a depth of 11 centimetres. It came out with a white fibrous material clinging to its length. ‘That’s a lot of insulation,’ said Benny. ‘I think this was built to store liquid hydrogen.’

‘What for?’

‘They used to use it as reaction mass in old-fashioned fusion drives,’ said Benny. ‘But you don’t use them on a planet – not unless you really hate the locals.’

They left the tank and continued on. There were five more storage tanks, making three on each side and then the corridor itself terminated at the launch bay. It was so large that they had to unship the big lamps to see its full extent. It dropped thirty metres below their feet and extended beyond the range of their lamps above.

There are some industrial sites that are impossible to mistake for anything else: dams, railway marshalling yards, breakwaters and pre-antigravity launch facilities. It’s particularly easy if the rocket is still on the launch pad.

Stack, she remembered, staring up at the partially intact rocket. A fully assembled staged rocket is called a ‘stack’.

Without antigravity, launching into orbit means building light and, unless you’re mucking about with nuclear or metastable hydrogen fuels, more than one stage. Over the years, the rocket had collapsed down on itself, the upper payload stage concertinaing onto the main stage below. Judging from the remains of the gantry, the complete stack had been 120 metres tall – according to her PDA, taller than a Saturn V and obviously much fatter.

Below, what Benny recognised as side-mounted boosters had fallen off the stack like seeds from a pod and smashed up the base of the gantry.

A survival mission or a last-ditch deflection mission? And if so, why did they never launch? She remembered the debris below the shaft,

bits of bomb casing and shards of broken hatch. Why would someone want to stop them?

Shawnee looked down at the wreckage and then back at Benny.

‘Don’t even think about it,’ said Benny. ‘We shouldn’t have come this far and I’m not going down there without people at the top.’ She trained her big lamp on the wall directly below their position. By leaning out she could just make out a dark gap – another entrance. To where? ‘People I trust,’ she said.

‘Let’s check the other corridors.’ Before I do something stupid.

The next three corridors exhibited the same pattern as the first, each terminating in a launch bay, all but one with the remains of a stack still *in situ*. In the second, the payload module had split when it fell and they caught tantalising glimpses of bales and cases.

They stopped to check in with Holgon and ate sandwiches in the light that filtered down the main shaft. Holgon wanted to know how long they were planning to stay down.

‘Getting bored up there?’ asked Benny.

‘You’ve been down there for five hours,’ said Holgon. ‘We need to head back before sunset.’

‘Another hour,’ said Benny. ‘Two at the most.’

They went east – towards the reservoir.

This corridor was straight and quickly opened out to become wide enough, if Benny guessed right, for heavy machinery. On this alignment it would neatly meet up with the entrances that had been sealed up when the reservoir dam was built. Making it, Benny guessed, the main access route for moving heavy equipment in and out of the base.

A separate sub-complex of corridors and chambers branched off south from the main access. At the centre was an oval chamber with terraces that reminded Benny of Pilar’s dog pit. There were the shallow pits that they had designated ‘spider seats’, which faced ceramic casings showing blind holes where instruments had decayed away. There were still patches of an electroluminescent polymer on sections of the walls – the remains of a large display screen. It was pretty easy to guess what the function was.

‘Control room,’ said Shawnee.

‘System monitors down here, supervisors in the second gallery and VIPs in the booth at the back,’ said Benny.

‘How do you know the VIPs went there?’ asked Shawnee. ‘Maybe it was the minstrels gallery.’

‘Or the cafeteria,’ said Benny. ‘But notice the positioning and the grooves where a partition window went. The people in there got a good view but had no direct participation. My money’s on politicians,

dignitaries and the media.'

'Found some bones,' said Shawnee.

'Don't touch,' said Benny automatically and Shawnee gave her the 'duh' look in return. 'I'm not sure we have time to do anything except record this.'

'Just a quick scrape,' said Shawnee.

Benny acquiesced, they plonked down a CAR, donned their gloves and dusted off the first layer. It wasn't lost on Benny that in a complex containing three virtually intact rockets, she and Shawnee chose to excavate a bone pile instead. They were both getting good at spotting potfish spider bones but which species this was – *glacio*, *consectatio* or *sapiens* – she couldn't reliably tell.

Shawnee carefully lifted out a melon-sized sphere, ochre-coloured and with a rough bark like texture. 'Buttonmonster cocoon,' she said. 'They go like this when you take them out of the water.'

'How do you know?'

'It's a game kids play,' said Shawnee. 'You catch a buttonmonster and strand it where it can't get back to the water. When it realises it's stuck, it starts jumping and rolling and this green stuff spurts out and it rolls itself up into a cocoon.'

'Interesting,' said Benny. 'A drought adaptation.' There was nothing in the database about this. 'How long can it stay like this?'

'I kept one for five years,' said Shawnee.

'What happened to it?'

'We were short for supper once so I dunked it in the lake and when it hatched we cooked and ate it,' said Shawnee.

'You don't think potfish spiders had a similar –
Thump.

It was quite distinct – a heavy thud and vibration – like an enormous iron door slamming shut.

Shawnee looked at Benny, who shrugged – she had no idea. She tried to raise Holgon on the com but there was no signal. They stepped out into the access way to get line of sight on the relay at the base of the shaft. There was a signal confirmation but Holgon didn't answer – he could be asleep or answering a call of nature.

Benny felt it rather than heard it – a vibration that set the dust flea-dancing on the floor. A moment later, she could hear it: a low throaty roar full of promise and inevitability.

'What's that?' asked Shawnee.

A breeze caressed Benny's cheek. 'Oh, fuck,' she said. The rational part of her brain knew what it was but the feeling part was scrambling to find a better explanation because it really didn't like the alternative. The reservoir had broken through and a million tons of water were on their way. Benny's breathing felt short; she wondered if

the oxygen was being sucked out of the tunnels but that was a fire storm. Wasn't it?

It was more than six hundred metres to the shaft and it bottomed out at the lowest point of the core – so running was out. The flow would be east to west so, if they could avoid drowning or being smashed to bits, it would carry them up to any air pockets that formed in the chambers beyond the core. If any air pockets formed at all. But it was too late because the wind was growing.

The descent cable – it was anchored at the base of the shaft. If she could grab it...

She grabbed her jacket, pulled it on and grabbed a heavy-duty finds bag.

'Shawnee,' said Benny, 'come and stand in front of me. Put your arms into the arms of my jacket.'

Benny sealed up the jacket around them, sinking to her knees so that Shawnee's back stayed pressed to her chest.

She could see it now, a liquid darkness at the end of the tunnel.

Should she take it in the face or turn and take it in the back.

In the back, she decided. The better to protect Shawnee.

The wind was a shriek sending dust and small debris spinning past her.

She bonded one lip of the evidence bag to the neck of her jacket, pulled it down over her and Shawnee's heads and sealed it tight. The transparent polymer was thick and the wind was muffled. She hugged Shawnee close – the young girl's heart banging against her ribs.

She crouched down to present the minimum cross-section.

I wasn't a laughing child or a courageous youth and I'm not even sure I qualify to be an adult but if you get me out of this I promise I will be louder, drunker, braver and more loving.

There was a moment of silence save for her and Shawnee's breathing, and then the water hit.

It was so much worse than anything she could have imagined.

The impact emptied her lungs, drove her headlong down the corridor.

Shawnee gave a thin wail and Benny hugged the girl tighter to her chest. She thought she might be tumbling but in the cold and turbulent darkness her only reference were the light-strips in the ceiling – dim, white glows racing past her head.

The strips ended and they were into the dark well of the chamber below the shaft. Benny spread her arms wide and as she did so she realised what a futile gesture it was.

But the cable slammed painfully into the crook of her elbow and she snatched madly, getting a grip with her left hand first. The cable was rough against her palms, designed, thankfully, to make it easier to

hold. Shawnee gasped as they swung round in the current and Benny fought to get her right arm onto the cable. Benny got her right palm in contact and closed her fist and pulled herself up – hand over fist.

Above, she could see the dim rectangle of daylight that marked the top of the shaft. It wasn't that far. She picked up the pace – they could make it.

Suddenly she felt the cable go slack under her hands. For a moment she couldn't understand why and then, still holding tight, she slipped back down away from the light – somehow the cable had been cut.

The cross flow caught her again, whirled her away from the base of the shaft. Something smashed into her back and there was a blow to her thigh, which made her scream out loud. They were whirled around by the water and smashed against a rock surface. The hood was ripped away with no warning and it was just dumb luck that she didn't breath water there and then.

It was at that point that she lost Shawnee. She tried to keep her arms locked around the girl but she just seemed to slip away. As she flailed, Benny's hand caught empty air and all thoughts of Shawnee emptied out of her brain. She clutched madly, found a grip and pulled herself upwards until her head smashed against rock.

She ignored the pain and the sticky trickle on her face – she was breathing.

But probably not for long: the air pocket was small, just a hollow in the roof of a tunnel and Benny found that she had no idea how long she could breathe before the carbon dioxide built up and hypoxia set in.

Benny did have her Basic Spaceman's ticket and that included a safety lecture on suffocation: how to avoid it. Hypoxia could set in faster than its symptoms could be detected. Which meant that if she stayed in the pocket too long, she'd die before she realised it...

Which meant that she had to leave the pocket and head off, hoping that she'd find another before she died. It was the only logical course of action she could take.

And Benny couldn't do it. She could not make herself leave her dark and claustrophobic hole in the ceiling. She found herself crying in frustration because she'd always wondered where her limit was and now she'd found it and it was going to be squalid and lonely. And if she was found the rescuers would point at the no doubt massive air pocket twenty metres further on and shake their heads and say what a pity it was that Benny just hadn't had the courage to swim for it.

And would that be ironic or just unfortunate?

She tried to rehearse it in her mind but she ended up imagining her cold and lonely death further along the tunnel. Or maybe she was short of breath because her pocket was already running out of oxygen.

Goddess, Benny, will you get a grip.

The Professor had said that Benny was going to die in a hole and that she was going to be disappointed because if she didn't find out what the hell was going on on this planet, it wasn't like anybody else was going to care and, anyway, Benny had made an oath, a sacred oath, and it was louder, drunker, braver and more loving and now was the time for brave...

Benny took a deep breath and plunged back into the water.

Self delusion, she thought, key human survival characteristic. If she got out alive it was definitely going in her dissertation.

In the end, the massive air pocket was more than twenty metres away and Benny barely made it – but the air pocket was there and that was the main thing.

It was like the peninsula shelter, only on a titanic scale: more than a thousand survival tubes racked six-deep in the strangely off-centre lines that they preferred to straight. Benny wondered what this could be – a clan, a town, a nation? Thousands upon thousands of individuals putting themselves to sleep in the vain hope of survival.

She had hauled herself out of the water and when the coughing had stopped she had looked around. Part of her was appalled that she could be interested in archaeology when Shawnee was dead.

'Not dead,' she said out loud. 'Missing.'

Her dad's going to kill me.

The whole chamber sloped gently upwards, which had trapped the air and saved Benny's life. Four parallel rows of stacked hibernation chambers followed the camber upwards but the survival tubes were racked to keep them level. It looked awkward and Benny guessed that tube storage was not its original purpose – that this part of the launch facility had been retrofitted.

Why? Had they run out of time or were they under attack? Did one group violently occupy the base just so they could use it for this? If they had, it hadn't helped them much; all the tubes she'd seen so far had contained dust and bones. Most of them had been damaged – from the outside. Benny didn't think the base had been occupied. She was pretty certain it had been cleansed.

Looking at the damaged tubes made Benny shudder. To a space traveller, they had the same intimations of death as a mortuary slab. In one, she found a buttonmonster cocoon nestled amongst the crumbling bones. She picked it up. The surface felt cool and inert – how long had it been there? There had been no signs that there had been any intrusion into the complex after the impact. Could it really be 10,000 years old? It seemed terribly unmarked for something that old and if she dropped it in the water would it revive?

‘Benny!’

The call made Benny drop the cocoon and twist about. ‘Shawnee!’

Shawnee’s head popped up from behind a line of tubes. ‘Benny,’ she said crossly. ‘Where have you been? Worry me, nah so.’

Benny bruised her thigh scrambling over the tubes – she grabbed Shawnee and held her at arms lengths. ‘Are you hurt? I thought you’d drowned.’

‘I live on the water, Benny,’ said Shawnee. ‘I was swimming before I walked. You still got all your limbs?’

‘Why didn’t you call out?’

‘I did,’ said Shawnee. ‘But I didn’t get an answer and then I got distracted.’

‘By what?’ asked Benny.

Shawnee gave her a strange look. ‘By this,’ she said. ‘Every single one of the tubes were broken into individually.’

‘You were more interested in the archaeology than looking for me?’ asked Benny.

‘I knew you’d be along eventually,’ said Shawnee.

‘Shawnee,’ said Benny desperately, ‘the universe doesn’t work like that.’

‘Has done so far,’ said Shawnee and gave her a grin.

How can you argue with that? thought Benny. ‘We have to get out of here,’ she said.

‘Shouldn’t we wait here to be rescued?’ said Shawnee.

It was a good question. Even if he hadn’t noticed the flood, Holgon should have at least started getting worried about them and she knew Rembrandt had an emergency search-and-rescue team because she’d checked before they came down.

Except that Benny was pretty certain that the flood had been started deliberately and the cable had fallen loose when she pulled on it. Not a moment she was going to forget in a hurry.

Benny felt that there was a good chance that rescue wasn’t going to come.

‘We don’t want to risk having this air pocket collapse with us in it,’ said Benny. ‘Better if we go now.’

‘And come back,’ said Shawnee. ‘We have to come back.’

‘Oh, definitely,’ said Benny. With the marines in tow. ‘Did you see an exit at the top?’

‘Nothing,’ said Shawnee. ‘No hatches or ladders.’

‘Then we have to get back up the shaft,’ said Benny.

‘Too far to swim, I think,’ said Shawnee.

‘We’re going to have to improvise,’ said Benny. ‘We need to make a submersible.’

People get excited about the term submersible, thought Benny, without thinking about what the name really means. All they needed was a rigid structure to trap air under while they walked back to the shaft. The main problem was weighting the thing sufficiently to overcome its natural buoyancy. Amongst the survival tubes they found one whose lid had been ripped off intact. All they had to do was make sure it was airtight, weigh it down and it was a quick stroll to the shaft and back to town for a shower, a meal and a bottle of Muvrad – definitely a bottle of Muvrad. Although Benny guessed that they'd probably lost the deposit on some of the climbing gear.

Benny got one end of the lid and Shawnee the other – it was surprisingly light. As they shifted it, a cocoon fell out and rolled down the slope.

They watched it roll into the water and submerge.

'Good,' said Shawnee. 'Now we can find out how long they keep.'

Benny's subconscious was sending her some disturbing signals about the bloody things, memories of cluster bombs and biology lessons and that film from the late twentieth century they'd all laughed so hard at – the one with the cat and the life boat.

There was enough scrap metal around to act as ballast and there were what Benny assumed were handles along each side rim of the lid. Benny took off her jacket, slipped out of her shirt and tore it into strips to serve as rope.

They tested the weight to make sure they could carry it to the water. For crude trim control, she dangled some of the ballast on strips so she could easily cut them once they were under way.

A close inspection of the lid revealed a number of holes too large to ignore but they plugged them with strips from Benny's shirt and the impression paste Shawnee still had in her pocket. 'We let it dry for ten minutes,' said Benny. 'Then off we go.'

She shrugged back into her jacket. It felt slick and cold against her bare skin but its bulk was reassuring.

While they waited, they walked down to the water to see how the buttonmonster cocoon was doing. It had vanished. Benny thought it might have been washed away except there were scraps of rough ochre skin floating on the surface.

'Ten thousand years,' said Benny. 'Damn, that's impressive.'

'Theoretically ten thousand years,' said Shawnee.

But Benny was thinking that ten-thousand-year hibernations were unlikely amongst naturally evolving species. Benny took Shawnee's hand and led her away from the water. 'Let's go now,' she said.

'But the plugs might not be dry,' said Shawnee.

'I think we have to risk it.' Benny was imagining a bomb, a biological weapon that was designed to penetrate into a fortified

bunker before disgorging its deadly cargo. Shawnee had once brought a string bag full of buttonmonsters, each one squished into a surprisingly small ball. There were twenty in the bag. How many could get into a decent sized warhead – a hundred? Five hundred? A thousand?

How sophisticated were they? Did they have the pheromone triggers that the biowar specialists always talked about or did they just attack anything living? Did whoever lobbed them into the base plan a takeover or an extermination? Let's not wait to find out. Because, whether natural or artificial, the drought adaptation made them the perfect instant monster – just add water.

They each picked up an end of their coffin-sized submersible and carried it down to the water. 'What are we going to call it?' asked Shawnee.

'JSS *Wide-Mouthed Frog*,' said Benny. 'After King Froggie and all who were buried in his mouth.'

They stepped into the water, hoisted the *Wide-Mouthed Frog* over their heads and walked carefully forward until Shawnee was up to her armpits.

Then they lowered it slowly – since Shawnee was shorter, Benny went behind so she could keep it level. It sank beautifully and without leaks – until they were crouched in their own portable air bubble. They each discarded a bundle of metal to reduce the weight but Benny felt it was safer to keep negative buoyancy until she was certain they were in the tunnel.

'All right,' she said. 'Forward march.'

They'd gone less than six metres when something banged on the side of the lid. Benny kept going – it could have been debris – but now her legs felt long and vulnerable.

There was another bang and then a skittering sound along the top.

'Down,' said Benny and crouched as low to the floor as possible. Shawnee was small enough to tuck her legs right out of the water but there was a couple of centimetres gap at Benny's end. It was an enormously uncomfortable position and Benny's knees immediately protested.

'What was that?' asked Shawnee.

'Buttonmonsters,' said Benny. 'They're bio-weapons.'

Another thump made the lid vibrate – there was a scraping noise like a knife on glass. Forward or back? thought Benny. Would we even make it up the shaft with buttonmonsters nibbling at our toes. 'Turn around,' said Benny.

'We've got to get back.'

Unlike Shawnee, Benny had to struggle to turn around and as she did the lid lifted at her end, water sloshed in as she lost air and then

three sharp legs jabbed hard into her thigh. Benny yelled and slammed down hard with the metal ballast she was holding. The legs made a satisfying cracking sound as they broke.

‘Go,’ she yelled. ‘As fast as you can.’

Benny found it easier to go on her knees – the rough surface of the floor skinned them bloody but the pain was lost in a wash of fear and adrenaline.

In front, Shawnee had begun humming as she stumbled forward. Benny recognised the tune as a bit of Bendypop nonsense that Chay liked to play while he was driving. The whole point of Bendypop was that it ‘bent’ ordinary sounds, in this case the swish of maglev trains, into danceable tunes.

With the right software, anybody could fashion their own hit download. It was the sort of art for the talentless that the Professor had hated and for which Benny was suddenly grateful because it stopped her thinking about her real –

And they were out of the water and out from the under the lid.

Benny didn’t look back, she’d heard the pattering of many legs through the shelving water behind them. She grabbed Shawnee’s hand and ran up into the chamber and into the stacks of hibernation tubes ‘Not that way,’ said Shawnee as Benny rounded a corner. ‘It’s a dead end.’

‘That’s the idea,’ said Benny and pulled Shawnee after her.

She’d remembered the location from her first reconnaissance, a narrow corridor between two rows of tubes terminated in a tumble of rocks where the wall had collapsed. The buttonmonsters could only come at them from one direction. It was the most defensible position Benny could think of – it should buy them all of five seconds.

When they got there, Benny saw that the cul-de-sac was just wide enough for her to block it with her body. If she put Shawnee behind her then perhaps her body would shield the girl from the attack.

Or she could pull the loose lid she could see hanging from the tubes and use it as a barricade. She was wrestling it into place when Shawnee screamed a warning and she looked up to see a buttonmonster coming at her full tilt.

Benny seized the length of metal ballast she’d carried from the water and hefted it like a diamond’s bat. She was about to yell – ‘Come and get it!’ – when the buttonmonster sprang straight for her face.

She swung and felt the metal bar smack into the main body, knocking the creature straight down the length of the aisle. It hit the floor and lay twitching.

Two more buttonmonsters appeared around the curve of the aisle and scuttled towards Benny’s position. They paused when they drew

level with their injured friend and did some eyestalk twitching that looked, to Benny, suspiciously like a system of communication. Benny had watched Chay prepare buttonmonsters for a barbecue – she knew the size of their brain case. If they were communicating it would be a rote exchange of information, selecting from a limited menu of responses. The question was how sophisticated was their programming, how limited a selection? Would they make a simultaneous attack or wait for reinforcements?

The programming was good; they attacked together, one high and the other low. Benny got them both with an overhead swing that clipped the high one and smashed the lower to pulp against the barricade. Behind her, Shawnee stamped hard on the survivor until it stopped wriggling.

Three more buttonmonsters appeared. Benny gripped her club tighter but they stayed back. There was some frantic twitching of eyestalks and then one of the creatures scuttled off out of sight.

‘That can’t be good,’ said Benny. She heard a white noise sound like a wave running out across a shingle beach or thousands of sharp clawed legs swarming up through a narrow space.

‘Benny,’ said Shawnee. ‘We’re going to die, nah so?’

Benny chuckled.

‘What so funny?’ asked Shawnee – offended.

‘I was seriously thinking of lying to you,’ said Benny.

Behind her, Shawnee made a noise that might have been a muffled laugh.

A wave of buttonmonsters appeared around the curve and advanced to where the two scouts were waiting. There they stopped and waited for the stragglers to catch up. At Benny’s rough guess there were over a hundred – she reckoned she could take two. Louder, drunker, braver, more loving.

‘I’m going to live, you bastards,’ Benny shouted at them. ‘Because three out of four isn’t enough...’

The buttonmonsters jumped en masse.

Benny dropped, tucking Shawnee tightly against her chest.

That close to the explosion it was hard to tell, but Benny was sure that the heat arrived before the compression wave. The noise registered last: two hard detonations one after another – the distinctive crash-bang of an army-issue blaster rifle.

There was the smell of burnt seafood and little bits of something fell around her. ‘And also,’ said Benny, ‘I knew there was someone behind you.’

She unwound and risked a look over the barricade. A figure in a full armour rig stood amongst the half-baked remains of the buttonmonsters. As she watched, the helmet unsealed and folded away

into the neck ring – the face underneath was familiar.

Benny had never thought to see Heidi in combat gear and the effect was strangely unreal. She looked like a cross between a recruiting poster and an advert for *Gotterdammerung* – she was beautiful and terrible and all would worship her or have their sorry arses kicked from here to the Wolf Stars.

‘Hi, Benny,’ she said. ‘Miss me?’

There was more blaster fire from across the chamber and a flash as one of the tubes imploded.

‘Live targets only, boys and girls,’ said Heidi into her com. ‘Anyone damaging the archaeology is going on report.’

Benny saw them through the gaps between the tubes. Their active camouflage was operational but it never updated fast enough to blend when they moved. At least twenty of them, fanning out by sections and squads. The troops had arrived in platoon strength.

Shawnee threw herself at Heidi, who had to quickly sling her rifle to catch her. ‘You left,’ said Shawnee reproachfully.

‘Came back,’ said Heidi.

There was another explosion. ‘That’s archaeology, you pillock,’ said a voice that Benny recognised as belonging to Pantero, one of the old diggers.

‘It has to be recorded before it’s blown up.’

‘I’m sorry,’ said Benny. ‘But my brain has taken a left turn somewhere.’

07: Crystal Peak

She woke up in a hotel room in Rembrandt with the last of the daylight blinding the windows. She was sporting medical patches and clean underwear that she had no memory of putting on. Next to her, Shawnee was still asleep, one leg flung out of the covers, face buried in the pillow.

Louder, drunker, braver and more loving, she thought. Let us start at the beginning.

Benny's carryall was waiting on the bureau – she put on a change of clothes and ventured out in search of alcohol.

The hotel was full of soldiers, including a guard on her door. She didn't know anybody by sight but it was obvious that there was major confusion in the ranks as to whether she was to be saluted or not. A corporal did manage to resolve his dilemma long enough to point Benny towards the bar.

Where she found Chay and Simone poring over a schematic of the complex. They were both in uniform – army-issue static DPM casuals she noticed, the kind to be worn on deployment, not around a safe base. Both were wearing sidearms.

Chay saw her and practically vaulted a table in his hurry to hug her – uniform or not. She hugged him back, his uniform blouse crisp and scratchy against her face. When he let her go, Benny realised that the insignia on his sleeves was wrong.

'You've been promoted?' she said.

'Skipped a rank,' said Chay. 'Warrant Officer One, better known as Master Digger. But I get the regimental sergeant major's bonus because I have the colours, if he had colours, which we haven't had time to sort out yet.'

'Master Digger?' said Benny. 'There's no such appointment.'

'There is now,' said Simone. 'We're making up our own traditions.'

Benny checked the tabs on Simone's shoulders. 'And you're a captain now?'

'Yeah,' said Simone. 'But an infantry captain, so it doesn't count.'

'If everyone got promoted that means Heidi is a –'

'Major,' said a voice behind her. 'Major Maputo, Commanding Officer First Regiment Combat Archaeologists, Corp of Colonial Engineers.'

Heidi was in the doorway in the same static DPM casuals. They must have machine tailoring for uniforms because there was no way one-size-fits-all would have fitted Heidi.

'Combat archaeologists,' said Benny.

'Get this woman a drink, Chay,' said Heidi. 'She's going to need it.'

They'd got as far as the dispersal depot on one of the icy moons of the system's second smallest gas giant. The depot, nicknamed 'purgatory', was essentially a series of warehouses for troops and their *materiel*. Soldiers sat in lounges waiting for their numbers to be called, gossiping, catching up with old friends and, if they were really desperate, availing themselves of the 'authorised entertainment facility' attached to each lounge. There were dormitories in case your deployment was delayed and several square kilometres of shower facilities. It was rumoured that some people spent their whole careers being transferred from one dispersal depot to the next, never catching up with their unit and finally being discharged – with suitable campaign medals – when their enlistment expired. It was estimated that at any one time 12 per cent of the united armed forces of humanity were currently at a dispersal depot. Psychologists had identified this as a particularly vulnerable time for soldiers: more desertions occur through boredom and frustration than from fear, cowardice or principle – that's why the depots were always built on uninhabitable moons or planets to make sure there was nowhere to run to.

A modern armoured division is roughly 12,000 personnel, so the depot was stuffed to bursting when they got there. Chay took one look at the numbers and realised that there was no hope of a spare bed so, with the other enlisted diggers, made a nest out of their kitbags and took it in turns to make food runs to the refectories.

'Diggers?' asked Benny.

'That's what we started calling ourselves,' said Chay 'Another instant tradition,' said Simone.

'We had to find a way to differentiate ourselves from the sappers,' said Chay.

'Sappers?' asked Benny. She was on her second brandy and it wasn't helping clarify things at all.

'We'll get on to the sappers later,' said Heidi.

Conditions were just as cramped in the officer's lounges, but Heidi and Simone wrangled a timeshare on a bunk. 'Simone vamped the allocations manager,' said Heidi.

'She exaggerates,' said Simone. 'I flirted a bit is all.'

Heidi snorted.

Soldiers gossip and soldiers grumble and most of the time it's hard to tell the two apart. Chay's lounge was full of burly men and women from various armoured infantry battalions. These were the shock troops, the people in powered armour who took on the enemy face to face – they had a reputation for elitism and the kind of *esprit de corps* that involves violent hostility to anybody not in the corps. As a result, it took Chay a whole 15 minutes to ingratiate himself and get the

latest news.

‘The 206 and the 734 and –’ Chay paused for emphasis, ‘– all three battalions of the Kingston Rifles were brigaded together and ready to ship.

Now, when you put all three Yardies together with the fatboys and the 734 it means get ready for a major offensive. So, definitely the Wolf Stars and definitely time to write your will.’ Chay poured Benny another drink. ‘Only, next day they were gone and we were still there.’

The lounge was deserted except for Chay and the diggers, which was suspicious because three of the diggers were from armoured recon battalions and they always deployed first. The big information screen at the end of the hall listed their deployment numbers under ‘pending’. They weren’t that worried because ‘military organisation’ had the same oxymoronic qualities as ‘military intelligence’ – it wasn’t unusual to hurry up and wait. However, eight months of working archaeology had blunted Chay’s patience with such bullshit and so he went exploring.

He spent a morning wandering through an endless series of lounges where little clots of soldiers were digging in for the long haul.

‘We knew the big transports must have left,’ said Chay, ‘which meant we were all surplus, just about anything can happen to you when you’re surplus but it usually takes a long time to start.’

The surplus were an eclectic lot, some light infantry, a pair of twins that were attached to a biowarfare outfit, a veterinarian and at least two medical technicians.

‘Lots of sappers,’ said Chay.

‘Sappers?’ asked Benny.

‘Engineers,’ said Heidi.

‘Hence diggers,’ said Benny.

‘Precisely,’ said Chay. ‘Meanwhile, the soon-to-be-promoted officers lounged around...’

‘Hey,’ said Simone. ‘It was hard work.’

‘I bet it was,’ muttered Heidi.

After three days, the remaining enlisted personnel had accreted around Chay’s position. Territory in the dormitories had been staked out and poker games established and while Chay wasn’t the senior NCO he was the one with firm links to officer country. He counted 340 enlisted personnel and he was beginning to spot a pattern. Three scratch companies: one made up of light infantry, one of sappers and the third a mixed bag of diggers, biowarfare specialists and oddballs that other units didn’t want.

‘Squadrons, not companies,’ said Heidi. ‘We’re in the engineers now.’

‘With organic transport, logistic and medical units,’ said Chay. ‘We were definitely a SpecReg.’

Which Benny knew could be very bad. Brigade-sized scratch units thrown together at short notice were called battlegroups and were usually a sign of desperation or a tough battlefield environment, but, in the end, that was just combat. A SpecReg was a specialist unit put together to do something that the special forces wouldn’t touch and that the brass knew they’d never get volunteers for. The missions were always secret but after forty years of war there were enough rumours to frighten a bunch of nervous squaddies.

‘Like on Shampak,’ said Benny. She remembered the reports because it was the first time she heard her father swear out loud.

‘Base infiltration teams,’ said Heidi. ‘Wonderful idea.’

‘Worked too,’ said Chay. ‘Apart from the 99 per cent casualty rate.’

With purgatory almost empty, only one kitchen was left open – serving enlisted out one door and officers out the other. It was a simple matter for Chay to stroll straight through and into officer country. The only difference he noticed was that the officers got table service. Heidi and Simone shared one table, while clustered around others were – Chay did a quick headcount – just the right numbers of captains and lieutenants for three scratch squadrons and logistic support.

‘By the time we got our official orders,’ said Heidi, ‘we’d already been training for a week.’

‘The promotions were handy,’ said Simone. ‘Sorting out the chain of command. More money.’

Benny resolved to find out precisely what it was Simone spent her money on. ‘What were your orders?’ she asked. ‘Exactly.’

‘Return to Jaiwan,’ said Heidi. ‘Determine whether there is a legitimate claim to activate the hibernation clause.’

‘And which result,’ asked Benny, ‘do you think Lafayette wants you to get?’

‘Not our problem,’ said Heidi.

‘You were gone for a month,’ said Benny.

‘We had to find our kit,’ said Chay. ‘And that took the best part of three weeks.’

‘We didn’t know there was a rush,’ said Heidi. ‘We thought that even you could stay out of trouble for a month. We were just settling back in when we heard of the flood at the rocket complex and Simone puts two and two together and we hopped a Fulcrum and deployed in company strength.’

‘We have a couple of Fulcrums of our own,’ said Chay. ‘Very handy for the shops.’

‘And there we found you at the bottom of a pit, fighting

buttonmonsters,' said Heidi. 'Without a weapon.'

'I'm sorry,' said Benny. 'I'm not used to routinely carrying a weapon – the archaeology isn't supposed to fight back.'

'I gave you a matching holster to go with it,' said Heidi.

'I just don't like carrying guns,' said Benny. 'Sorry.'

'It was a birthday present,' said Heidi reproachfully.

'What happened to Holgon?' asked Benny.

'The climbing shop guy?' asked Heidi.

'Yes.'

'We found his body at the top of the shaft,' said Heidi. 'He'd been shot in the back of the head – execution style.'

Benny didn't know what to say. He'd just been the guy from the climbing shop. Now he was dead and Benny couldn't help feeling it was her fault.

'Somebody cut the cable,' she said.

'Actually,' said Simone, 'they just released it from its mooring.'

'And blew the tunnel caps in the reservoir,' said Benny.

'Using explosive gel,' said Heidi. 'Civilian issue. It's got a molecular trace but no one on this planet has ever bothered to track the stuff.'

'Why did they do it while we were down there?' asked Benny. 'Why not wait until we were out.'

'Well, Benny,' said Heidi. 'We think they were trying to kill you personally.'

They started recovery operations that day but Benny stayed overnight in the hotel with two bottles of Muvrad, practising louder and drunker. She and Shawnee flew out the next morning in one of the regiment's newly acquired Fulcrums – it was an older model and creaked when the pilot pulled another three-g landing. She'd noticed nose art as she and Shawnee boarded – a bizarrely curvaceous mole-human hybrid drawn in the Magic Realist style.

There was a patch of fresh paint underneath just where the eye expected the motto to be. 'Slight disagreement about that, ma'am,' said the co-pilot when Benny asked. 'The regimental sergeant major said it was prejudicial to the good name and traditions of the regiment and anatomically unlikely – he did, however, suggest some anatomical positions that might be tried if he came back in five minutes and found it hadn't been painted out.'

'Chay said that?' asked Benny.

'I'm paraphrasing, ma'am,' said the co-pilot.

They flew over the reservoir on their way to the entrance shaft – there was no sign that the water level had dipped at all. A pair of large bore water pipes were spewing water back into the reservoir; they were painted Day-Glo orange and the Fulcrum followed them as

they snaked across the desert and down the entrance shaft. The area around the top of the shaft was an armed camp as half the First Regiment of Combat Archaeologists dug into the desert. Because it was a modern military camp most of it was invisible, hidden under mimetic camouflage bubble tents and hastily dug trenches.

Pilar was waiting for them when they landed. Benny gave him a good hard hug, which seemed to surprise him.

‘I really don’t think you’ve got the hang of this archaeology business,’ he said. ‘It’s supposed to be a slow and sedate profession for quiet and methodical people.’

‘I don’t go looking for trouble,’ said Benny.

‘And yet,’ said Pilar, ‘there it is wherever you go.’

‘Have you been down yet?’ asked Benny.

‘Most of the night,’ said Pilar.

‘Anything left?’

‘The rockets are still intact,’ said Pilar. ‘But the flood damage was extensive. I think we can recover a lot of the archaeology but it’s going to take a long time.’

‘You want to take over the site?’

Pilar pursed his lips. ‘Well,’ he said. ‘It is in the desert. Okay. Do I have to have an armed guard?’

‘Only if you want to keep living,’ said Benny.

‘Combat archaeology,’ said Pilar.

‘Wave of the future,’ said Benny.

She didn’t ask Shawnee whether she wanted to go back down and Shawnee didn’t volunteer. Benny rode down on a reassuringly modern AG sling with half a ton of equipment and a short squat corporal called Dickinson. He was the hairiest man Benny had ever seen – it covered the back of his hands and reached as far up as his collar bone. Benny distracted herself from the descent by wondering whether he could be used to prove the existence of one of the still-missing links in human evolution.

When they reached the bottom, Benny looked back up and thought, This is where I nearly died. With her spider-diving activities that made two near-death experiences in under three months.

Simone was waiting for her, in a wet suit and actually sitting half submerged while she worked on her PDA. According to Pilar, she’d also been down overnight, working in both her professional capacities – surveyor and bombardier.

I never wanted to be a soldier, thought Benny. But every time I turn around – there they are.

‘Two bombs,’ said Simone. ‘A high-density penetrator to take care of the hatches and a buttonmonster bomb to take care of the spiders

inside.'

'Yes, but why?' asked Benny. 'It seems such a lot of trouble to go to when a dinosaur killer is on its way.'

'Somebody looking to manage the post-impact situation in their favour,' said Simone. 'Everyone else is distracted and off their guard. Hard to imagine a better time.'

'That's really cold,' said Benny.

'I'm trained to drop rocks on people for a living, remember?' said Simone.

'Gives you a chilly perspective.'

Clean-up was going to be slow and painstaking. Benny worried that Pilar was right about her being unsuitable for true archaeology; she'd felt such a thrill when she'd found the rockets – she wasn't sure that patiently scraping away at the topsoil was going to do it for her any more.

On her way out, she found Simone curled up on a tiny dry spit of rock – fast asleep. Benny splashed over to the stores section and got her a reflective blanket. Then she rode back up the shaft on the AG sling and found Heidi sulking in her tent.

'We've got a real problem,' said Heidi. 'That journalist has been stirring it.'

'What, Lola?'

'Mama long legs herself,' said Heidi. 'Her media source is hyping a report by her claiming that the human military is playing up the whole alien civilisation thing in order to justify the evacuation of the planet.'

'Are you?' asked Benny.

Heidi gave her an odd look. 'Not that I know of,' she said. 'And you're the star of her show, a young archaeologist with family connections to the top brass.'

'Is that why they tried to kill me?'

'Maybe,' said Heidi. 'They didn't know you well enough for it to be personal. People are scared – that includes the Jaiwanese government.'

'Then we should see if we can arrange a meeting,' said Benny. 'I'm sure you could calm them down.'

'I can't head a delegation,' said Heidi. 'I'm a serving officer.'

'We'll send Pilar,' said Benny. 'He can talk them into a stupor.'

'Benny! That's so unfair,' said Heidi. 'And would be worth a try if we could get the government to talk to us.'

'I suppose General Lafayette could get their attention,' said Benny. 'But that wouldn't do much to calm fears of a military takeover.'

'You'll have to go to Crystal Peak and lobby,' said Heidi.

'I've got a better idea,' said Benny. 'Why don't we get the

government to invite us?’

‘You understand how this works?’ asked Lola. ‘We do a long interview and people can access all or part of it according to the parameters of their newsengine.’

Benny laughed. ‘It’s called dipping, Lola,’ she said. ‘I study the past – I don’t live there.’

‘You’d be surprised how many don’t know how it works,’ said Lola. ‘It’s just easier to explain up front. There’s dipping for interviews and googling for facts...’

‘I bet you don’t know where the word google comes from,’ said Benny.

‘Of course I do,’ said Lola. ‘It’s from the old English goggle, meaning to look at something with surprise.’

‘Just checking,’ said Benny.

Lola had her sitting in a camp seat with a sweep of desert behind her. The cameras were a trio of floating ping-pong balls that whispered into new positions when she moved. Lola had told her to ignore them and act natural.

Lola had her own camp seat and Benny noticed that she had a particularly way of sitting to hide the freakish length of her legs. There was at least a five-minute delay while she checked her appearance, during which Benny had the strangest urge to fix her make-up – the whole media thing was obviously contagious.

‘So,’ said Lola. The Jaiwanese archaeological trust – stooge of the military or active conspirator?’

Benny stared at her.

‘Just making sure you were awake,’ said Lola.

Afterwards, Lola shook Benny’s hand, packed up her gear and left.

Simone watched her go with a wistful sigh.

‘I thought it went rather well,’ said Benny.

Heidi shook her head. ‘General Lafayette is going to do her nut,’ she said.

And she was right – Lafayette did her nut. Even with the small projected image from Benny’s PDA it was scary stuff. Benny had vague memories of her father’s anger, the time she’d broken the model starship for one. It was a tight-lipped, tightly controlled fury over in a moment and replaced by a serious determination that the situation be dealt with efficiently. Looking back, Benny decided that the anger was less frightening than the determination. Even then she knew that anger would pass.

He put her in charge of his model collection, made part of her pocket money contingent on their safety and upkeep. It worked: no model starship was so much as nicked until the day after he was

officially declared missing presumed killed. In the morning, while her mother was distracted by visitors, Benny snuck into her father's study and smashed every single one of them to pieces.

Lafayette was too smart to get military with Benny. Instead, she did tight-lipped and disappointed.

'Combat archaeologists,' said Lafayette. They're not supposed to be official.'

'They think differently,' said Benny.

'Major Maputo understands,' said Lafayette. 'It's a bit of administrative sleight of hand to keep key personnel on Jaiwan. It's inevitable that your interview is going to leak off-world and then I'm going to have to answer to Sector Command, at the very least.'

'And you think they won't be pleased?' asked Benny.

'I wouldn't worry about me,' said Lafayette. 'You just publicly identified yourself as Bernice Summerfield, daughter of Admiral Summerfield and currently sought for compulsory enlistment by the draft authority.'

'Oh,' said Benny.

'Oh,' said Lafayette. 'Let's hope for both our sakes we can force a resolution before the high command comes after us both.'

'But did it work?' asked Benny.

'It worked,' said Lafayette. 'The Jaiwanese president requests your attendance at Crystal Peak – at your convenience, of course.'

'Of course,' said Benny.

'So I'd get a move on,' said Lafayette.

As they approached Crystal Peak, the Fulcrum's pilot did a low bank for no other reason than to show off the Spire to its best effect. It soared above the rest of the city like two swan necks entwined – a filigree of gold and silver-black tracing the curves upwards and culminating in a single spire six hundred metres above the plain.

Chay had been right: those two crazy AIs had been in lurve.

They'd done their best with the layout of the rest of the city, laid out boulevards and gardens, but human beings had messed it up as humans always did. The same grey and white cookie-cutter plasticrete cut through with pollard trees and road grass – the same ugly sprawl as every other modern city. According to the Professor's notes, the last period of great human architecture had been the late twentieth century. There was nothing ugly about the Station Hotel, a subsidiary tower that flew off on a buttress from the Crystal Spire. It was not what Benny had in mind when Lafayette had talked of a quiet place to stash them before the meeting. She hoped that they weren't going to do another macho three-g landing but, either someone had had a quiet word with this particular pilot or perhaps because they were deep into

civilian airspace, the landing was so gentle Benny was a tiny bit shocked when the hatch opened.

Or perhaps it was the decor.

The Fulcrum sat on the delicate landing balcony like a heavyweight wrestler on a chaise longue, looking very out of place and anxious to leave.

A gently sloping access ramp swooped down to the Station Hotel's sky lobby, where a line of neatly liveried staff waited for their guests with garlands of flowers in their hands. Overlooking the scene with an expression of serene hilarity on his plump face was one of Jaiwan's famous 'laughing Buddhas'.

Heidi took one look and sashayed down the ramp as if she wasn't wearing dust-stained combat fatigues. 'Oh, man,' she said. 'Five star. Hey, Benny, push the boat out because the bone collectors are back in town.' She touched her hands together in the Jaiwanese fashion and had to bow quite low to allow one of the staff to put a garland around her neck.

Shawnee had her best dealing-with-real-adults face on, as she received her garland. Benny was trying to remember whether she'd ever been inside a five-star hotel before. There was her stay in the Chanzay Palace Hotel on Dionysis – but she was pretty certain it didn't count as five star if you were under bombardment. Chay greeted his garland with the dazzling smile and the full Lopeti twinkle and suggestive eye contact that was, judging from Heidi's total lack of expression, going to cost him in a variety of ingenious ways over the next few days.

The garlands smelt of cinnamon and cherry blossom.

A tall man in his early thirties stepped forward. He was dressed in this year's fashionable suit, which couldn't hide his long rangy arms and big hands. We should introduce him to Lola, thought Benny, they'd make a set.

He had tan skin, a narrow mouth and careful eyes which, Benny noticed, methodically scanned the room.

He put his hands together and bowed – everyone reciprocated.

'Good morning,' he said. 'My name is Sunan Paramita, from the office of the president. Welcome to Crystal Peak.'

Benny looked at Heidi, who deferred to her. 'Thank you, Mr Paramita,' Benny said and bowed back. Paramita smiled, a quick reward for getting the right surname even though he'd given it last to fake her out. You don't catch me out that easily, thought Benny, I'm hip to this planet now. And Shawnee had tapped her twice on the arm to let her know. So we're playing games right from the start – not a good sign.

'The council is in session,' said Mr Paramita. 'The president sends

his regrets but he feels it is unlikely that he will be free for a meeting before tomorrow.'

'We look forward to the meeting,' Benny said and bowed, just to see if Paramita would bow back – he did. Heidi bowed and Paramita bowed to her.

Chay grinned and was about to bow when Heidi kicked him in the foot.

'Tomorrow, then,' Mr Paramita said and withdrew quickly – before anyone else could start bowing. Something about the way he walked nagged at Benny but she couldn't put her finger on it.

They each had their own room with en suite bathroom and expensive perfumed things and courtesy fruit baskets and all the other luxuries that Benny had only ever read about. That was a lie: she'd once encountered them during her very brief career as a chambermaid on a luxury liner. She'd lasted less than an hour before the purser reassigned her to the galley.

A desperately tasteful sign on the bedstead announced that the mattress responded to voice commands. She flopped down and wriggled to get a feel for it. 'Firmer,' she said and the mattress hardened up beneath her back.

When she asked for maximum softness, she sank until only her nose was visible. She sighed – luxury made her anxious. She couldn't help thinking that something bad was about to happen to her.

'Worse,' she said, remembering the flood and the interview. 'Something worse happening to me.'

'I want to strut,' said Heidi.

'Low profile,' said Simone.

They were having evening cocktails on the long, curved balcony that adjoined their suite. To the west, the sun was melting into the line of snowless peaks that bordered the plain.

Benny looked at the lights of Crystal Peak spreading out below them. This far up, the city was a distant electric hum of traffic and the eucalyptus smell of the ubiquitous particle trees on the breeze. There was a pit of unease in her belly and a strong foreboding that the cocktails and the city night couldn't dispel.

I thought I was going to die alone, reflected Benny 'What's the point of coming to the only decent-sized city on this planet if we can't have a proper femme noir?'

'Hey,' said Chay.

'Well, somebody would have to babysit,' said Heidi.

'I heard that,' said Shawnee from inside. She'd found the suite's top-of-the-range games peripherals and was experimenting.

'Or we could take Shawnee,' said Heidi. 'I'm sure it would be

educational.'

'Oh, yeah,' said Chay, 'Street-level projectile vomiting.'

'Get down,' said Simone.

'That was just the once,' said Heidi.

'GET DOWN,' Simone screamed and drove her shoulder into Chay's back, knocking him into Heidi and Benny so that they all went over together. Benny registered multiple bright flashes and the smell of ozone.

'Incoming,' said Chay.

'No, really?'' said Benny.

'And I swear it was the curry,' said Heidi. 'Definitely off or something.'

They finished their drinks sitting on the balcony floor with their backs sheltered by the parapet. According to the News Update there were serious 'disturbances' going on in the suburbs.

There was a distant explosion.

'Frag,' said Chay.

Another explosion.

'Another frag,' said Chay.

They heard a rapid exchange of zips and rattles.

'Stunners and blasters,' said Heidi. 'Fire fight.'

'You were the one who wanted to strut,' said Simone.

Another explosion, much closer.

'Frag,' said Chay.

A fourth explosion, louder and somehow deeper than the frags. Benny looked at Chay. 'Well?' she asked.

'Not sure,' he said. 'Anti-tank mine, I think.'

Heidi had a look over the parapet. 'Demolition charge,' she said. 'Knocked down a building in the suburbs.'

There was a sound like shattering pottery and splinters of the hotel's outer cladding pinged off the wrought-iron table and the fruit basket. Heidi ducked back down.

'Somebody's shooting at us,' she said.

'I doubt it,' said Simone. 'They're probably just firing at the hotel when they see something moving.'

'Are you sure?' asked Heidi.

'We could go down and ask them,' said Chay.

Benny had a sudden horrid thought. 'Where's Shawnee?' she asked.

'The staff took her to the hotel's panic room,' said Heidi.

'Oh, good,' said Benny. 'How do you know?'

Heidi touched her ear and Benny saw she was wearing a receiver. 'I'm monitoring,' she said.

'Who would have thought that an archaeological conference would

be so exciting?’ said Chay.

‘Pilar did warn me,’ said Benny. ‘He said that he’s seen some serious spats at some of the conferences he’d gone to. ‘Things can get ugly,’ he told me.’

Two more explosions, close together.

‘Frag and frag,’ said Chay.

‘When they have a riot on this planet,’ said Heidi, ‘they don’t mess about.’

‘Are you people out on the balcony?’ said a voice from inside the suite.

‘Who wants to know?’ called Heidi.

‘It’s me – Lola.’

‘Hi, Lola,’ said Simone.

‘Shouldn’t we go in?’ asked Benny.

‘It’s a beautiful night,’ said Heidi. ‘Shame to waste it.’

‘Is it safe to come out?’ asked Lola.

‘If you stay nice and low,’ said Heidi.

Lola appeared in the doorway on her hands and knees. She was trying to maintain her dignity but it was a losing proposition.

‘Lower,’ said Heidi. When Lola gave her a pained look she said. ‘I’m not joking, Lola.’

‘If you could just grab a couple of bottles on the way over,’ said Simone.

‘And the fruit basket,’ said Chay.

Lola vanished back inside for a minute and then returned with a complimentary goodies hamper. She put it down on the tiled floor of the balcony and with a hard shove with her long legs propelled it towards to the parapet. Chay slid down on his back, snagged it with his foot and dragged it the rest of the way.

‘Brains as well as beauty,’ said Simone.

Lola bit the bullet and belly-crawled across the balcony and into a space between Simone and Benny.

Benny glanced at the stud in Lola’s eyebrow. ‘Is that thing on?’ she asked.

‘It’s always on,’ said Lola. ‘In fact, I forget it’s there most of the time.’

‘Doesn’t it stifle your social life?’

Lola smiled. ‘You’d be amazed.’

‘And you have the footage to prove it,’ said Heidi.

‘Look,’ said Chay, holding up a heavy glass bottle. ‘We have alcohol.’

‘Better that it’s on all the time than I miss something,’ said Lola.

‘And has that ever happened?’ asked Heidi.

‘Only once,’ said Lola. ‘And now I wear this.’

Chay passed Benny the bottle; she took a swig. It was a fizzy white wine but instead of being sweet it was dry and astringent. 'What's this?' she asked.

'Champagne,' said Chay.

'Hey, pass it on,' said Simone.

Benny offered it to Lola, who shook her head, and passed it to Simone.

'So, that's champagne,' said Benny.

'You've never had it before?' asked Lola.

'Nah,' said Benny. 'My lifestyle tends to be a little more down-to-earth.'

They heard a series of firecracker pops in quick succession.

'Pulse rifle,' said Chay.

'Although this is definitely beginning to feel familiar,' said Benny. The champagne came back and Benny had another swig. 'It's good though, isn't it?'

'Nah so,' said Lola.

'You're a local, Lola,' said Heidi. 'What's all this noise about?'

'People are worried that they're going to be forced to evacuate the planet,' said Lola.

'And they think it's our fault?' asked Benny.

'Well, you are pretty much to blame,' said Lola. 'But that's a moot point. The protocols of colonisation state –'

'No human colonists have ever evacuated a planet – ever,' said Simone.

'Not even when their lives depended on it.'

'People don't want to be the first,' said Lola. 'We take regulations and contracts seriously on Jaiwan.'

'Really?' asked Simone.

'And it's other things,' said Lola. 'People are fed up with being garrisoned and feeling that the government is subordinate to the military. There're always people on the fringes who are looking for a cause to justify their latent sociopathy.'

'If the spiders ask for their planet back,' said Benny, 'are you going to leave?'

Lola looked away. 'No,' she said. 'They'll have to prise this planet from my cold, dead fingers.'

Lola was right: the Jaiwanese were a serious people and the riot knocked off early. 'Presumably,' Benny said, 'so the rioters can get a good night's sleep before work.'

Politics obviously kept nightclub hours because they were just moving back into the suite when Mr Paramita appeared at their door.

'The president will see you now,' he said and then held up his hand

to forestall Heidi. 'If you don't mind, Major, the president feels that this is a civilian matter.' Heidi gave Benny a strange look and then shrugged.

'As you wish,' she said.

The president's office occupied the last private floors below the summit of the Spire. The top three floors above were taken up with a series of restaurants, bars and nightclubs – although none of the owners was allowed to have their offices higher than the presidential suite. It was remarkably similar to General Lafayette's – fewer images of soldiers on the walls, but the layout was identical. Given their respective jobs, Benny wondered why she was surprised – power was power, after all. The president did have a much better view from his window – the long sweep of the Central Valley as it sloped down to the sea.

'Impressive – yes?' asked the president.

Benny looked quickly away from the view and, embarrassed, focused on the president. He was short and brown with thinning black hair and could have been a brother to Shawnee's father.

'Yes,' said Benny and sketched a bow.

The president gave her a suitably superior nod and gestured to a low sofa.

'Please,' he said.

As she took her seat, a pair of aides, who had barely registered before, brought in tea and cakes. The president sat in a comfortable armchair that Benny couldn't help but notice was six or seven centimetres higher than her own. Mr Paramita noiselessly slipped into the room and took a straight-backed chair behind the president's right shoulder.

One of the aides poured the tea and withdrew from Benny's view but not, she thought, beyond striking distance should Benny do anything sudden. The president himself passed cup and saucer to Benny.

'So,' said the president. 'You are the young woman who would like to destroy our way of life – yes?'

'That wasn't my intention, sir,' said Benny. She couldn't bring herself to sip the tea, so she put it down before the cup began to rattle.

'I should hope not,' said the president. 'I presume that you think our way of life is worth preserving?'

'Yes, sir,' said Benny.

'Then at least we have some common ground,' said the president. 'Your General Lafayette assures me that the military will abide by the protocols of colonisation and that she has requested that treaty observers be sent.'

Traditionally, an observer team would include at least one Earth Reptile and one Martian and one human – they would arbitrate on whether the protocols applied or not. ‘When will they get here?’ asked Benny.

The president glanced at Paramita, who spoke. ‘A month at the minimum.’

‘As I understand these things,’ said the president, ‘in the absence of any sapient examples of an indigenous species it’s possible that the observers may rule for an evacuation – on precautionary principles.’

The Earth Reptiles would: they had never forgiven humanity for usurping their position as dominant species on Earth. Benny had argued with the Professor about – the Professor took the Earth Reptiles’ side. Benny could never understand why.

‘It’s never happened before. Mr President,’ said Benny.

‘No,’ said the president. ‘But we both know that certain... factions will be looking to create a precedent.’ Some human beings would always side with aliens against human beings – Benny suspected a deep-seated masochistic urge.

‘I cannot change the facts. Mr President,’ said Benny.

‘We’re not an overspill colony. Most of our families have been here for over ten generations,’ said the president. ‘I cannot make them leave their homes as part of the ‘precautionary’ principle.’

‘The articles of colonisation –’ began Benny.

‘You saw the riot,’ said the president. ‘I cannot make them. And I do not believe your General Lafayette would willingly provoke an armed rebellion this close to the Wolf Stars.’

It seemed wise to Benny to wait; the president was obviously taking her somewhere.

‘If we had someone to talk to,’ said the president. Somebody to negotiate with, then I’m certain we could reach an equitable agreement.’

‘And if they still want you off their planet?’ asked Benny and wished she’d phrased that better.

The president gave her a sharp look. ‘One problem at a time. Ms Summerfield,’ said the president. ‘Anticipation is the death of action – yes?’

Shawnee came into the bedroom to do Benny’s hair. She’d started growing it long in the Jaiwanese style and, although she didn’t really like people grooming her, she let Shawnee because she seemed to enjoy it so much.

‘Do you think the president will accept the observation team?’ asked Shawnee.

‘They’re not going to buy it until I walk in with a genuine thinking

potfish spider and let it do the talking,' said Benny.

'Even if you do. others will just ignore it,' said Shawnee.

'What would your father do?' asked Benny.

'I know a story about this.' said Shawnee. 'Grandfather taught me.'

Benny was wary – judging from the stories Shawnee attributed to her grandfather, the old man was a few shuttlemouths short of a barbecue. 'All right,' she said. 'What's it called?'

'It's called Lojo the Fisherman,' said Shawnee.

'One morning,' Shawnee began. 'Lojo the fishermen went out in his boat, as he did every day of the week except Tenday, and caught himself a mermaid. Now, the people of Lojo's village were sensible, practical people and when they caught a mermaid they usually just sliced off the human half and took the fish half home. Because, as you know, mermaid tail fetches a good price on the open market. The mermaid caught in his net pleaded for her life but Lojo was having none of it. 'Why should I spare you?' he said to the mermaid. 'If I were to fall overboard, would your kind spare me?' And the mermaid was silent because what could she say? Any man who fell into mermaid-infested waters would be dragged under the waves and drowned.

Lojo took his machete from his locker and prepared to cut the mermaid in two.

"Wait," cried the mermaid. "If you spare me I will make you rich." Well, that was a different matter, but Lojo had been a fisherman too long to take anything for granted. "I will let you go only if you leave me a lock of your hair." For, as I am sure you know already, a lock of mermaid hair gives its possessor the power to summon that mermaid whenever he wants.

'With much bad grace, the mermaid bent her beautiful head and allowed Lojo to cut off a lock of her silky green hair. 'Let me go,' she told him. 'And when the little moon has crossed the sky, cast your net into the sea and it will bring you riches.' So Lojo let the mermaid go and returned to the village.

And so he waited impatiently for the sun to set and for the little moon to go across the sky, and finally he went out in his boat and cast his net into the sea. And, almost before the cast was over, his net was suddenly heavy and full.

"What can this be?" he said to himself. "Perhaps it is gold and jewels, or cargo from a shipwreck. At the very worst it can be a valuable catch of fish."

And with that happy thought he hauled the net back into the boat and groaned when he saw what it held. For in the net, Benny my sweet, was a corpse! Dressed in the garb of a travelling salesman and bloated and puffed up by the sea.

'This was the worst possible catch, because any body found in the

sea must, by unbreakable tradition, be returned to dry land for proper burial. With a heavy heart, Lojo turned his boat about and set off for home.

‘Back at the village, Lojo took the body to the shrine and notified the constable, who put the particulars onto the internet. It was possible that the travelling salesman had a family who would give Lojo a reward – perhaps that would bring him wealth.

‘But there were no relatives and no reward, and Lojo angrily put to sea that night with little hope in his heart. He waited for the little moon to pass across the sky and cast his net again. And again he was rewarded not with treasure or even fish but with a corpse – this one that of a scuba diver in a ragged wet suit. Once more, Lojo returned with a body and informed the constable.

‘Once again there were no relatives and no reward. Lojo was furious and he sailed out to give it one more chance. This time he caught an old dead man dressed in rags and obviously so poor that the shrine was unlikely to recoup the cost of his funeral.

“‘Well,’ said Lojo the fisherman. “‘Nobody can say I haven’t tried.” And he took the silky green lock of the mermaid’s hair to his lips and hummed a sea shanty that his father’s father’s father had taught him. Sure enough, the mermaid jumps out of the sea and into the boat.

“‘Your bargain is invalid,’ Lojo told the mermaid and he lifted his machete to cut her in two. “‘Please don’t kill me,” pleaded the mermaid. “‘If you spare me, I will come and live with you and be your wife.”

‘But Lojo already had a wife who he loved very much, so with a single stroke from his machete he cut the mermaid in two and threw the top half back into the sea.

‘At least I will have this mermaid tail to sell, he thought. And, content with that, he set course for home and whistled a happy tune.’

‘Shawnee?’ asked Benny. ‘Has your grandfather spent any time in prison?’

‘Do you want to hear the end of the story or not?’

‘I thought that was the end,’ said Benny.

‘No,’ said Shawnee. ‘For that night, the queen of the mermaids was out hunting with her spindly killer fish and what should float down from above but the human half of her beloved youngest daughter. Quick as a flash, she raced to the surface and saw Lojo’s boat almost at the village. She threw her seven-pointed trident with all her might and impaled him through the back.

Then she pulled on the trident’s silver chain and back came Lojo – screaming all the way.

‘The queen of the mermaids sliced poor Lojo clean in half but used her magic to keep him alive – all the better to marry her bisected

daughter. And there he lives until this day, half a man married to half a woman.'

'And the moral of the story is...?'

'Oh,' said Shawnee. 'I forgot a bit. The old dead man turns out to have been the father of the king and so, if he'd just waited, Lojo would have had a big reward.'

'Instead of being half a man under the sea,' said Benny. Then she stood up so fast she almost knocked Shawnee down. 'I've just had an idea,' she said and ran for the door.

There was no one in the lounge, so she knocked on Heidi's door.

'Who is it?' asked Chay from the other side.

Benny heard a muffled curse and the sound of Heidi being terse and irritated.

'Who cares, guys?' said Benny. 'I'm not in the chain of command. Open the door – it's important.'

The door opened to reveal Heidi wrapped in the duvet. Behind her, Benny could see Chay reclining naked on the bed – he gave her a nonchalant wave.

'Yes,' asked Heidi.

'I think I know where we can find some living sapient potfish spiders,' said Benny.

08: Combat Archaeology

‘I don’t see why we can’t do this in a civilised fashion,’ said Benny.

‘What do you count as civilised?’ asked Heidi.

‘A nice ocean cruise followed by a gentle dive in a submersible.’ said Lola and grinned at Benny.

‘I’m with Ms Media on this one.’ said Benny.

‘There weren’t any civilian submersibles with the depth and endurance to reach the target,’ said Heidi. ‘We could have fabricated one but that would have taken ages what with the testing and everything.’

‘I could have waited.’ said Benny.

‘What’s wrong with this one?’ asked Heidi.

‘It deploys from orbit,’ said Benny. ‘I count having to be dropped from a great height as a major design flaw.’

‘Not if you’re under fire,’ said Heidi.

The cabin shook as the compression wave built up – something stowed in a locker somewhere started to rattle. The capsule was already cramped but, dressed in pressure suits, they sat facing each other knee to knee. There was no instrumentation: the pilot was driving the thing via a wireless interface in his suit.

‘Combat archaeology,’ said Benny, ‘is going to go down in history as one of the great military oxymorons.’

Below them was the ocean and a thousand metres beneath the surface a magnetic anomaly which represented Simone’s best guess for an intact survival base.

‘It helps,’ said Chay. ‘if you think like an amphibian. To them the ocean is just another layer of the atmosphere – just a bit thicker is all.’

‘How do you know amphibians think like that?’ asked Benny ‘Have you ever asked one?’

‘Course I have,’ said Chay ‘I had a greenie bunkmate at ecological warfare school.’

‘You mean an Earth Reptile,’ said Lola. ‘An indigenous Terran.’

‘I mean a greenie with a crest and a heat gun,’ said Chay.

‘They let him keep his heat gun?’ asked Heidi.

‘Cultural weapon,’ said Chay.

‘So, you didn’t know any button heads?’ asked Benny.

‘Of course I did. Who do you think taught me Polari?’ said Chay. ‘Donna tray orb he vada acqua in a completely different way – I can tell you. That’s why he was on the ecological warfare course and that’s why everyone had to bunk with a different species. Widen your perspective.’

‘You know,’ said Heidi, ‘suddenly so many things about you have

become clear.'

'Don't worry, Major,' said Chay. 'When I'm tucked up in my letty it's still your eek I dream of.'

They smashed sideways – faster than Benny could comprehend.

'The compensators are out,' yelled Lola.

They smashed the other way but this time Benny had her feet tucked into the alcove provided.

'No, that was a jink,' said Heidi – an evasive manoeuvre.

'Are we being shot at?' asked Benny.

'I don't know,' said Heidi.

Another violent lateral jink was followed by two loud bangs – the second one seemed to reverberate through the hull. An alarm began a low but persistent wail.

'We're under fire,' said Heidi.

'Is it the JPL?' asked Lola.

'I can't see who else it could be,' said Chay.

'Why are they shooting at us?' asked Lola. She seemed outraged that she, personally, should be under attack.

Nobody got a chance to answer because they entered a series of painfully violent jinks which ended in a banging sound – as if bits of the outer pressure hull were falling away. Heidi caught her panicked look.

'Liar bombs,' she shouted. 'Tell tales and crybabies.'

Benny took a deep breath – chaff, flares and ECM spoofers.

'Where the hell did the JPL get suborbital ordnance?' yelled Benny.

'Army surplus,' said Chay as the noise abated. 'This planet's awash with all sorts of kit. Two to three million soldiers. It's amazing that they're not flogging buzz bombs in the town markets.'

'That's such a comforting thought,' said Benny.

'Subsurface in ten,' said Heidi. 'Nine, eight, seven...'

* * *

They took Lola because someone had to represent the interests of the Jaiwanese people. It couldn't be an agent of the government because then it could be passed off as a joint conspiracy – a large section of the population believed that the military owned the government already. Lola's media outlet was overjoyed at the suggestion, but Benny got the distinct impression that Lola herself didn't want to go. 'I don't like heights,' she'd said at the planning stage. 'Or depths, or confined spaces or the ocean.' But her media outlet had already started a studiously casual word-of-mouth publicity campaign – so what choice did Lola have?

Like an amphibian, the designers of their drop capsule also regarded the ocean as merely another layer of the atmosphere, and the surface

of the sea as just another boundary layer to be negotiated – preferably at high speed.

Benny knew instinctively that this particular design had come from a Marine design bureau. As her father had told her when she was six, ‘The navy likes to be elegant, the army likes to be sneaky and the Marines like to SMASH IT WITH A HAMMER.’

For a while, ‘Smash it with a hammer!’ had been little Benny’s favourite catchphrase, especially because it delighted her father so.

‘And what do we say to Admiral Kurusawi?’

‘Smash it with a hammer!’

‘I say, Summerfield, you seem to be raising a Marine here.’

Her mother hadn’t found it funny at all.

The capsule went into the sea like a musket ball into Camembert, riding its compression wave of plasma five hundred metres down before it decelerated to subsonic velocities. Even with inertial dampeners it was a rough ride; without them it would have been jam-on-the-ceiling time.

‘Are we hit?’ Lola asked Benny, who shook her head. Smash it with a hammer.

Heidi got on the coms. ‘August One,’ she said. ‘Down and styling.’

Danzig and Fargo reported in from August Two; they were two minutes behind them while Simone stayed in orbit with August Three – just in case.

‘Just in case of what?’ Lola had asked. ‘Just in case we need someone to recover our bodies,’ Heidi had answered.

‘Diving shields,’ said Chay. There was a fizz and a series of icons lit up in Benny’s HUD. This was negative-pressure diving: a military-specification kit that used force fields to protect a diver from the crushing pressure of deep diving. No need to worry about pressurisation, exotic breathing mixtures and the deadly effects of decompression sickness. But the suits were power-hungry and even with superloop battery packs you got just a shade under eight hours. In the corner of her HUD, a neon clock started counting down.

At zero the field would shut down, the physical part of the suit would collapse and Benny would drown or be crushed – depending on depth.

‘You pays your money,’ Simone had said during the initial fitting in orbit, ‘And you takes your choice.’

‘Any sensor return?’ asked Benny

‘Not yet,’ said Heidi.

The regiment hadn’t been happy about using active sensors. The modern planetary battlefield was a game of hide and seek with blasters – to be seen first was to die. To a soldier using an active sensor was worse than wearing a target – it was like trying to locate

the enemy by rubbing your forehead against the muzzle of his gun.

'Return,' said Chay and shunted the image to Benny's HUD. She saw the active sonar outline of a circular structure half buried in the ocean floor.

'Promising,' said Benny. As if there was the possibility of doubt, as if it could be anything else. 'Anything that looks like a docking access?'

'Negative,' said Chay. 'But I have a good candidate for forced entry.'

Benny would have liked more time to make a thorough survey but the neon numbers on her HUD were spinning down. Time wasted now might hurt them later. Might kill us, thought Benny.

'What are we waiting for?' she asked.

Judging from what she could see, Benny reckoned that the base was a hundred metres across. The outer ring was made up of linked segments, like wagons formed into a defensive circle. There were no hatches or viewports visible and every exposed surface was encrusted with shells and sea-bottom debris. The capsule had been designed to breach the armoured hulls of enemy submersibles: it had a breaching gun rated for three metres of reinforced duralloy, and molluscs didn't enter into it.

The capsule stuck itself to the roof of one segment and started to cut. It took a surprisingly long time to cut through – at least two and a half seconds.

'That's some serious metallurgy,' said Heidi. 'If we wake them up, we are going to have to ask for the recipe.'

The capsule signalled a successful breach and the floor between the seats irised open to reveal the boarding tube.

'Do you want to go first?' Heidi asked Benny.

Actually she didn't – losing her foot and a close encounter with an underground flood were making her cautious – but she knew if she didn't then Heidi, and the military, would take the lead from then on. 'Of course,' she said and slipped down into the darkness.

Once she was on her way down, she felt the same excitement that had gripped her before. Better than a trench, part of her insisted, better than all that patient scraping and recording. Better than love, better than anything else.

It was different, Benny saw that at once. Different from the bunker and the rocket base. The interior was arranged in straight lines and right angles. The hibernation tubes were rectangular caskets with right-angled corners and stacked perpendicular to the floor. It felt regimented, symmetrical and much more human than other spider installations.

It had sprung a leak some time in the last ten thousand years and flooded to about thirty centimetres before water and air pressure had

equalised. The water was clear and still and, even though she could feel nothing through her suit's pressure field, it looked damned cold.

'I can see three rows of cabinets,' she reported, 'of different sizes and capacities. They have ancillary equipment which may indicate life support.'

The walls also appear to be lined with storage lockers arranged with their long axis along the horizontal.' That was stretching an assumption but they certainly didn't look like a hibernation system to Benny. She flashed her range finder at the lockers and a comparison with the observed external dimensions estimated their depth at half a metre – definitely too small for life support.

'There are pressure doors at either end,' said Benny. 'From their general position, I guess that this section was originally flooded to a depth of 150 centimetres or more.' Which was deeper than other spider sites – was that significant?

'You stalling down there, Summerfield?' asked Heidi.

'No, Major,' said Benny. 'I'm getting those important first impressions in peace and quiet. But you might as well come down.' They were relying on their suit sensors to record everything. Heidi had assured her that they were better than the third-generation generic knock-offs used by their CARs. Chay came down first, followed by Heidi and Lola.

'Are these hibernation caskets?' asked Lola.

'I think so,' said Benny. There were three basic sizes of casket; only the largest was big enough to hold a spider. They were arranged in groups, each spider-sized casket accompanied by two to three smaller types.

'Pets?' suggested Lola.

'Or equipment,' said Chay. 'They might not have thought about living organisms in the same way we do.' He waved his finger sensors over the some of the caskets. 'No electrical activity,' he said. 'No temperature above ambient – its all dead.'

'Shall we open them up?' asked Heidi.

'One of each size,' said Benny. 'We don't have time for more.'

The spider-sized casket housed the remains of a spider. Unlike the tubes at the rocket base, the inside of the casket was lined with small compartments. Inside, they found metal objects, what might have been small electronic items and the remains of organic compounds. 'Why inside the casket?' said Heidi.

'Where else would you keep your stuff?' asked Lola.

'Cluttering up your tube creates an additional risk factor. Objects can act as impromptu hint sinks or disease reservoirs or interfere with the electronics,' said Heidi. 'Best to keep it simple.'

'They must have valued their stuff over their survival,' said Chay.

‘Shocking,’ said Lola. ‘You never see that kind of behaviour in human beings.’

The medium-sized casket housed a creature they’d never seen before.

Desiccation had caused it to collapse in on itself, making its original shape hard to discern. ‘Something new?’ asked Benny.

Chay poked at the pathetic thing with a probe. ‘I think it’s a miniature wide-mouthed frog,’ he said.

The smallest casket contained two spherical wire-mesh containers stuffed full of dehydrated buttonmonsters. ‘Let’s just put those back where we found them,’ said Benny. ‘And don’t get them wet.’

‘So much for live spiders,’ said Lola.

Heidi gestured at the pressure door at the end of the section. ‘Should we check next door?’ she asked.

Benny glanced at her countdown. ‘We need to work our way inwards,’ she said. ‘If there are going to be intact tubes then they’re going to be closer to the core.’

‘Caskets,’ said Lola.

‘What?’

‘You called them caskets before,’ said Lola. ‘Not tubes.’

‘Caskets, then,’ said Benny.

‘At least there’s no sign of an attack,’ said Chay.

‘Unless this base belonged to the Omega faction,’ said Heidi.

Since it was clear that some kind of conflict had gone on in the last days before the planetoid impact, Benny had designated the rocket base as belonging to the Alpha culture and the people who had destroyed it the Omega faction. ‘A suitably ominous name,’ Pilar had said when they discussed it. ‘Assuming that the Alpha spiders weren’t done in by invading aliens.’

Assumptions – it was all about making the right assumptions.

‘I think it’s a safe bet they’re from a different culture from the rocket faction,’ said Benny. ‘Look at the geometric way the caskets are arranged, all those straight lines – that’s very different.’

Chay’s working assumption had been that something in the physiological make up of the spiders’ brains meant they found straight lines uncomfortable or possibly even painful. If that was true then the spiders who had built this base had been true masochists, assuming it was built by spiders at all.

The Martians had a saying; an archaeologist must always be ready to eat their own assumptions. Although some translations were adamant that the word was children. ‘Good advice either way,’ the Professor had said.

But Benny’s instinct was that the base had been built by spiders who liked straight lines and right angles. And the wholesale extermination

of members of their own species, she thought. At least we'll have something in common.

They split up to look for access points. Benny headed for the pressure door at the far end. She banged on it with the blunt end of her probe – it made a solid sound. 'The next compartment along is flooded,' she said.

'Same this end,' called Heidi.

'I've got a horizontal shaft that goes in towards the core,' said Chay.

'Me first,' said Benny, heading back towards Chay.

'Don't be so childish,' said Heidi, 'Besides, I bagsied it already.'

'Did not,' said Benny.

Chay pointed to a square outlet in the ceiling – it looked like a ventilation shaft.

'Did too,' said Heidi.

'You two do remember I'm recording this for public broadcast,' said Lola.

'Nah so?'

Heidi went first – it was her turn. It was a tight fit and her pressure fields fizzed alarmingly against the metal walls of the shaft. There was a clang and Heidi said something that Lola assured Benny would be censored before broadcast.

'Why didn't we just cut our way into the core?' asked Lola.

'Key archaeological concept,' said Benny. 'Start at the periphery and slowly work your in.'

'Key military concept,' said Chay. 'Always do a recon first.'

'Key safety concept,' said Heidi over the coms. 'Never crawl into a space narrower than your whiskers.'

There was another clang and more swearing and then Heidi reported that she was through. 'Another section. This one is longer – about 24 metres – and wider. Has more stuff in it, as well.'

Before Chay could move, Benny jumped up, grasped the edges of the ventilation shaft and used the diving suit's servos to pull her inside. A couple of amber lights flashed in her HUD as the diving fields reacted badly to the confined space but nothing that registered as serious. She had to wriggle for six metres; the movement was cramped and unnatural and by the time she got her head and shoulders into the next section she'd sweated enough to temporarily mist the inside of her faceplate.

It was awkward emerging head first and Heidi had to help her. Benny wondered how Heidi had managed it on her own. A new information box on her HUD caught Benny's attention, a little green bar with the radiation trefoil blinked intermittently as she turned her head.

'Is there a radiation hazard?' she asked.

‘Not a hazard in these suits,’ said Heidi. ‘But I am getting a directional reading off it. Judging from the profile it could be a very old RTG.’

‘Still operating after ten thousand years?’ asked Benny. A radioisotope thermal generator used the radioactive material of its core to produce electricity. Eventually, radioactive decay would render the core inert and the RTG would die – along with anything depending on it for power. Benny had done practical nuclear assembly at school and had a vague memory that they only gave power for a couple of decades at most.

‘That’s what it looks like,’ said Heidi. ‘And this guy is still on life support.’

Heidi tapped a casket that rested against the inner wall. It was one of the spider-sized ones and mounted upright. Two other caskets were mounted in the same fashion while the rest were stacked horizontally – as were all the caskets in the outer section. Benny was struck by the hierarchical nature of the layout; each of the upright caskets formed the apex of a group of caskets of various sizes. If the upright caskets represented the top people then it was possible that they got priority on the dwindling power supply.

She ran her sensors over another of the upright caskets – it too was running although at marginal power levels. She told Heidi and they checked the other caskets as Lola and Chay wriggled into the section with them. The uprights were active; the rest were all dead.

‘Family groups?’ asked Heidi.

‘Do spiders even have families?’ asked Lola.

‘Modern ones don’t,’ said Chay. ‘They’re cyclical hermaphrodites. They spend six years male, six years female and two years time off for good behaviour. Those that are currently female lay eggs in the water and those that are currently male hose the eggs down with sperm – after that, it’s every spider sprog for itself.’

‘So, no families,’ said Lola.

‘Must be nice,’ said Heidi.

‘Eh?’ Lola was outraged. ‘Nah so?’

‘Six brothers,’ said Heidi. ‘The barracks room held no fear for me.’

‘If not families then what?’ asked Lola.

‘Looks hierarchical to me,’ said Benny. ‘Servants or retainers in the big caskets, pets and/or engineered servitors in the others.’

‘We should open the dead caskets to test that,’ said Heidi.

Benny checked the time. ‘Okay, let’s get on with it, then,’ she said. ‘You two open and record four of the caskets while me and Lola look for access into the core.’

‘Shouldn’t we open one of these?’ asked Lola.

‘Not until we know what’s in them,’ said Benny.

‘Who’s in them?’ said Lola. ‘I think we’re past the sapience debate now.’

‘Right,’ said Benny. ‘Who’s in there? Mr Intelligent-tool-user or Mr Bite-your-foot-off-as-soon-as-look-at-you.’

‘Besides,’ said Chay, ‘if there were complications, we wouldn’t have the facilities to handle it.’

‘Let’s go, Lola,’ said Benny.

There was no sign of there being another ventilation shaft leading further into the core so Benny decided to see if they could access the next section along. Banging on the pressure door produced a reassuringly hollow response so it was just a question of getting the door open. That proved to be easier than she expected, just a matter of putting pressure on two clearly marked pads on the left of the door and jumping back as it swung open.

‘For something that old,’ said Benny, ‘that was incredibly smooth.’

‘They just keep on surprising us,’ said Lola.

‘Yes, they do,’ said Benny.

‘I’m looking at a sack full of mutant buttonmonsters,’ said Chay from behind them. The diving suits’ com speakers were surround sound – all the better to facilitate situational awareness in a tactical environment. Benny wondered how realistic the simulation was – if she closed the hatch, would it simulate Chay being cut off?

‘Are they the same type as the ones from the rocket base?’ asked Benny.

‘Bigger,’ said Chay.

Of course they are, thought Benny. What was I thinking?

Behind the pressure hatch was a short linking corridor and a second hatch – this too sounded hollow when Benny tapped it but she couldn’t see a way to open it. She ran her finger over the surface to let the suit’s sensors get a look at the inside. A comparison with the first hatch appeared on her HUD.

‘There’s a fluid counterweight in there,’ said Benny. ‘They built this with the absolute minimum of moving parts, which makes sense. It should be operated by a pressure pad on the right but...’ She saw the problem. ‘The pad is jammed.’

Benny activated her knuckle shields on her left hand, balled her fist and slammed it into the pressure pad – it gave way and the second hatch swung open as smoothly as the first.

I say, Summerfield, you seem to be raising a Marine here.

‘And you’re an archaeologist,’ asked Lola.

‘We’re on the clock, Lola,’ said Benny. ‘Besides, this is way more tomb robbing than archaeology’

The next section had the same general layout as the first. Benny moved quickly to check the upright caskets against the inner wall – all

registered faint power readings. Benny moved on to what she was now sure were the 'lower status' caskets – nothing. Priority had clearly been given to high status individuals who were also symbolically closer to the centre. Theoretically, that meant the core should house the highest status individuals and that their caskets could still be powered.

It also meant that they were a culture which prioritised the retainers and pets of high-status individuals over the lives of low-status individuals.

Or you're just making a complete set of false assumptions, she thought.

'Can you see an access to the core?' asked Heidi.

'Maybe,' said Benny. There was a hexagonal fitting on the inner bulkhead that might fit the bill.

Benny felt a thump vibrate the floor beneath her feet.

'Benny,' called Lola – urgently.

She turned. The hatch had slammed shut – they were cut off from Heidi and Chay.

The fluid counterweight had broken and the hatch was stuck. It had obviously been designed to failsafe into a closed position. You didn't want a door that jammed open – not in an underwater base.

And this, she thought, is why you don't hit the archaeology with a hammer.

Benny checked her HUD – they had less than four hours of diving time left.

'We're going to have to cut you out,' said Heidi. There's a plasma torch on the submersible.'

'Don't forget to record before you cut,' said Benny. Chay gave a hollow laugh.

'We'll be back,' said Heidi. 'Don't break anything else while we're gone.'

Benny walked over to the hexagonal hatch on the inner bulkhead and ran her little finger around the edge. The suit sensors confirmed that it was a hatch. She gave it a rap – there was air behind it.

'What are you doing?' asked Lola.

'Might as well make the best use of our time,' said Benny. 'Nah so?'

'Just as long as you don't get us stuck anywhere else,' said Lola.

'Good point,' said Benny.

'We can record the inactive caskets,' said Lola.

'You see,' said Benny. 'The archaeology's beginning to rub off on you. I'll open them up – you record.'

They started with the smallest and furthest away. Inside were two sacks of buttonmonsters. In their desiccated state it was hard to tell

but to Benny they seemed a different colour to those that had attacked her in the rocket base.

It could be natural species diversity or engineering – or could buttonmonsters and king froggies have evolved in symbiosis with the spiders, as dogs and humans had done?

The next small-sized casket was different: it held a miniature king froggie.

‘I’d say that was probably a pet,’ said Benny.

‘Do you think the spiders engineered themselves?’ asked Lola.

‘Apart from the killer spiders?’

‘I thought they were a caste,’ said Lola.

‘Chay thinks they were modified as adults,’ said Benny. ‘But nobody can agree on why. Chay thinks they’re soldiers, Heidi thinks they are law enforcement and Pilar thinks it’s for gladiatorial games. Your guess is as good as theirs.’

‘I think it was done as a punishment,’ said Lola.

The edge in her voice made Benny pause.

‘Is that what happened to you?’ she asked.

‘Oh, no,’ said Lola. ‘This was done to make me better.’

‘By your parents?’

‘It was Mother’s idea,’ said Lola. ‘When I was 11 and I’d had my first period and it was obvious that I wasn’t going to get any more pretty. She took me to an illegal clinic and had them lengthen my legs.’

‘Why an illegal clinic?’ asked Benny. Body modification had been free on the Navy family-care plan and there were girls at the academy who started each summer term with a new nose or skin colour.

‘It’s illegal for parents to make non-corrective changes to their children,’ said Lola. ‘You have to be 16 and that would have been too late for Mother. She needed me stage four – while I was still pliable. They lengthened my legs, kept my torso short and gave me breasts that stay perky at two g’s.’

‘I bet you were a hit with your peers,’ said Benny ‘You weren’t popular at school,’ said Lola, ‘were you?’

‘I went to a single-sex military academy,’ said Benny ‘I was troop leader for a while – does that count?’

‘I didn’t like being stared at,’ said Lola. ‘I was a freak, and when they arrested my mum I was a freak with a mad mother.’

‘But you were popular?’

‘I made myself popular,’ said Lola. ‘But I never did like boys though.’

‘So Simone’s in with a chance, then?’

‘I don’t have relationships,’ said Lola. ‘At least not since I was at U-tech.’

‘You went to technical college?’ asked Benny. ‘What did you study?’

‘What else?’ said Lola. ‘Journalism.’

One of the sensor displays on Benny’s HUD changed. She checked the upright caskets against the wall and found they’d lost power. She got Lola to confirm the readings.

‘Maybe the batteries ran out,’ said Lola.

‘On the same day we turn up?’ said Benny. ‘That’ll happen.’

A thump from inside the casket made them start. Lola backed away. The thump was repeated, harder, and twice more, rapid blows – urgent.

‘It’s trying to get out,’ said Lola.

‘We have to help it,’ said Benny.

‘Are you mad?’ said Lola.

‘It’s sapient, Lola,’ said Benny. ‘We can’t leave it in there.’

‘Yes, we can,’ said Lola. ‘What if it’s a fighter?’

There was a flurry of blows from inside the casket, desperate.

Heidi pinged for attention. ‘Benny, listen,’ said Heidi. ‘Without power, the wake-up sequence has aborted and there’s nothing you can do.’

‘We have to try,’ said Benny. But she didn’t move.

There was a particularly hard blow, followed by a softer one.

They waited for a couple of minutes more but there was nothing else.

She pinged Chay and Heidi. ‘Are you guys registering a shift in power distribution?’

‘Just a sec – checking,’ said Heidi. ‘As far as I can tell the second ring is dead but there’s an increase in the core.’

‘I think we’ve triggered a revival sequence,’ said Benny. ‘It’s pulling power out of the periphery to revive the spiders at the core.’

‘And if there isn’t enough power...’ said Heidi.

‘Then we could end up killing the whole lot by accident,’ said Benny.

‘We’ll be through the door in 15 minutes,’ said Chay. His com had a weird buzz behind it, interference, Benny realised, from the plasma torch.

‘We don’t have time,’ said Benny. ‘I’m going to access the core hatch and try to get through.’

‘Benny,’ said Lola. ‘That’s a really bad idea. People are cranky when they wake up.’

‘Lola’s right,’ said Heidi. ‘These people didn’t know what kind of world they’d revive into and they may adopt an aggressive response as a default defence posture.’ A sentence like that from Heidi meant she was really worried.

‘Relax, guys,’ said Benny. ‘I used to take the Professor her first coffee – remember?’

The hatch to the core had the same style of fluid counterweight as the others – it opened smoothly to Benny's touch. Heidi knew her better than to try to reason with her but her suit microphone was sensitive enough for Benny to hear her swearing under her breath.

'I've never done that, especially with yoghurt,' Benny told her. 'And you know damn well that my father was an admiral.'

She climbed into the duct behind the hatch; the next hatch was less than three metres ahead. Her diving field fizzed in the tight confines and a couple of amber icons appeared on her HUD to explain exactly why this was not a good thing. There was less than three hours of power and she had to count on at least sixty minutes to get back to the capsule in safety.

And you're doing this why exactly?

Benny didn't have an answer except that C followed B followed A.

She wriggled herself down the shaft until she reached the second hatch. It was closed and, according to the diving suit's sensors, firmly locked. It was obvious that the hatch was designed to be secured from the inside – a little predictable paranoia in a hierarchy but unlikely to be much comfort to the elite spiders when they woke up dead.

Benny banged on the hatch a couple of times in the vain hope that it might loosen something up.

Suddenly, the hatch flew open and Benny found herself face to eyestalk with a fully grown potfish spider – one with a stinger, she noticed; a fighter.

'Hi,' she said.

The spider lunged forward and, before Benny could react, its mouthparts had fastened around her helmet and she found herself with an endoscopic view of the grinding spines in the throat.

She screamed.

Lola yelled something incomprehensible and Benny heard Heidi tell Chay to blow the hatch.

'Wait,' said Benny. 'I'm all right. I just had a shock.'

Her helmet was designed to resist the massive pressure of the deeps. A spider's mouthparts weren't going to make a dent, or so she told herself. The spider started to pull her head first into the core and she heard muffled splashing sounds which indicated that it was flooded to its design depth.

Given the base layout, the fighter that had her head was probably part of an elite bodyguard, which meant the actual elite could have revived intact.

'I think the core has revived intact,' said Benny.

'And you were screaming because?' asked Heidi.

'I just met the praetorian guard,' said Benny. 'And I think I might be just about to meet its leader.' Or provide it with a wake-up snack, one

of the two.

The fighter spat her out and she landed face down in the water. Careful to move slowly, Benny climbed to her knees and looked around. There were three spiders in a semi circle around her and all were fighters. The stubbornly analytical part of Benny noted that they were wearing flexible, high-technology armour, whose flat planes and angular joints were consistent with everything else she'd seen of their material culture.

The rest of her was shaking in her suit.

She was still alive, which was a hopeful sign. The fighters were acting in a coordinated fashion, very different from the frenzied actions of a modern potfish spider. It suggested that there might be a controlling intelligence, one that Benny could communicate with.

She felt a sharp vibration through her hands and knees and groaned. Heidi had blown the hatch. The fighters reacted instantly: two swarmed up through the hatch while a third slapped Benny back down on her chest with a casual swat of its tentacle.

'Heidi,' she signalled. 'Goddess's sake, stand down – you're going to get me killed.'

'Are you sure?' asked Heidi.

There was a shriek, which the suit's HUD identified as coming from Lola.

'Are you under duress?' asked Heidi.

'Of course I'm under duress,' said Benny. 'I'm in a first-contact situation with a deeply stressed alien species whose paranoia is not helped by my own side blowing up bits of their base.'

Lola slammed into the water beside her and struggled to rise. As she did, you could practically feel the tension amongst the fighters increase.

'Lola,' said Benny. 'Stay down.'

Lola slumped back down again.

'Submission,' said Benny. But this was a caste society – it was important not to submit too much or they might have you for breakfast. 'I really wish you hadn't said that.'

'Said what?' asked Lola.

'Just thinking out loud,' said Benny

A tentacle slapped her on the back again. The spiders were technologically proficient; of course they were monitoring communications. 'Everybody follow my lead,' said Benny. 'And stop talking.'

The HUD display maintained telemetry displays from the other suits. Either the spiders weren't bothered or they hadn't noticed such low-bandwidth transfers. By the clenched fist icon that represented Heidi appeared a single word – HOLDING.

It was time to see how much status she could carve out of the spider's caste system. Slowly, Benny got to hands and knees and raised her head above the water line. The three fighters were once again surrounding them but this time further back. Benny wondered how they would react if she were to stay on her knees but sit up straight. How would that be interpreted – respectful attention or rearing up like a cobra? Only one way to find out.

The eyestalks, protected by perspex domes, flickered as she moved, but otherwise the fighter's posture was unchanged. Benny risked speaking though the suit's exterior speakers.

'Good morning, spiders,' she said. 'Did you have a nice sleep? I'm talking now on the off-chance that you might have a computer system sophisticated enough to handle a translation matrix. Although this could be a vain hope, because, of course, you've never encountered alien species before and wouldn't have need of a system that could look for common reference points without any point of cultural similarity at all. Hello, am I boring you? Can you at least acknowledge that I'm the member of a sapient species.'

Benny paused for a reaction.

A small shape pushed itself between the legs of the spiders and splashed to a stop in front of Benny. The size of a poodle, it had ten legs and a ridiculously oversized mouth. The eyestalks waved gently in Benny's direction – as if scanning.

Benny realised that she was looking at a miniature wide-mouthed frog.

The frog made a grunting sound, sniffed the air and tilted its head in an alarmingly doglike manner. It grunted twice more and then splashed away the way it had come.

A scout, Benny decided, a biological sensing mechanism used to gather data remotely in dangerous situations – as canaries and dogs were once used on Earth; as machines were now used by humans.

It would be reporting back to its master, who would then decide whether Benny was more interesting alive or dead.

In a sudden flurry of limbs, the fighters changed position, creating a corridor between their bodies for another, previously unseen, spider to advance. This individual was slightly smaller than the fighters and lacked their stingers and fighting tentacles. Tufts of a short, wiry hair sprouted in patches around its eyestalks and the skin at the shoulder joints of its gripping limbs was wrinkled. Benny's brain kept wanting to attach the word venerable to the spider's appearance but that was a trap. Even if it was caused by age, it was still a trap.

Benny made the mistake of holding her arms wide.

In hindsight, it was an obvious mistake. With a species whose instinctive attack posture involves flinging out all four forward limbs

and driving headlong at your opponent, opening your arms to show you were unarmed is not recommended.

The venerable spider shot backwards as if on wires and the fighting spiders surged forward.

Later, Benny would claim that she remembered Shawnee's cousin's advice on how to handle spiders just in time to curl up into a ball and tuck her hands between her knees. It was true that she did remember the advice a few moments later; it's just that it wasn't the reason she curled up into a ball and started whimpering. Then, as she waited to see whether the spiders would attack or not, it all started to make sense. Of course the descendents of the fighting spiders would leave you alone: this was the submission gesture, the token of surrender.

'Whatever else happens,' said Benny, 'don't move.'

'Not planning to move any time soon,' said Lola. 'As long as you promise not to do whatever it was you just did ever again.'

Something, possibly a stinger, rapped twice on the top of her helmet. She heard an echoing double rap to her left – Lola was getting the warning too.

Then came a tug upwards on both her shoulders. Benny hoped to Goddess she was reading the signals right and slowly sat up straight.

The Venerable Bede was waiting for her, flanked by two spiders – the third was out of Benny's vision and she just hoped that it wasn't scuttling off to confront Heidi.

Lola started to unfold slowly, but sensibly kept her profile low and mouth shut.

Then the Venerable Bede spoke. It sounded like a high-pressure hose being used underwater but it was definitely speech. The translator program working through the suit systems woke up and starting sucking up data.

When the Venerable Bede paused, Benny held up her hand and said, 'Hand.'

Then she repeated that for her arm and any other visible body parts. It was old school stuff but nouns were the key to establishing communication quickly, followed by physical noun-verb combinations. For some reason that Benny couldn't understand, it was called the see-spot-run protocol.

The Venerable Bede followed suit, identifying each of its legs with a different sound and also, Benny noticed, separate names for each eyestalk and mouthpart. Benny wondered whether the Venerable Bede was using some highly technical physiological jargon or they really did have discrete names for each leg.

A text message flashed on her HUD: it was from Heidi and it said, 'Time!'

Benny checked: they were down to just under sixty minutes of

power left.

‘We can resupply you with powerpacks from the pod; appeared on her HUD. They would have to get permission first.

‘See spot run. Hi, Heidi, I know you can hear me but I’m currently pretending to produce the kind of stream-of-consciousness data for their translation program. Fetch the powerpacks but whatever you do, don’t come beyond your current position. I’ll try to get permission from the spiders. See Jane run, run Jane run.’

You were supposed to keep that up for at least two hours but Benny had a powerful aversion to death by implosion so she moved right along to show and tell. This involved projecting a series of pictures and identifying each as it came up. She knew the spiders had produced two-dimensional imagery so they could process the data. It was a question of whether they, or their computer system, could handle the sensory input.

There was a notorious case where half a species of aliens had gone hysterically blind because of a botched attempt at rapid show and tell.

No such fear with the spiders. Within five minutes, one of the servitors had gone and fetched a plasma screen and they were patiently waiting their turn to show and tell. Either they were amazingly fast on the uptake or they had planned for just this contingency. Perhaps they had expected to be woken by aliens; she would have to ask if she got the chance.

The poodle-sized wide-mouthed frog caught her attention. It would watch the projected images with rapt fascination and then, whenever Benny paused the display it would run back to Venerable Bede and rub itself against its master’s outer mouthparts. Benny upped her magnification and watched closely. Even so, she had to replay the footage in slow motion to catch it. As the wide-mouthed frog preened against the mouthpart, a gossamer-thin strand would flick out from below the spider’s eyestalk and attach itself to the back of its head. The frog would shudder and then the strand would whip back out of sight.

They really were advanced biologically – they were using the wide-mouthed frogs as remote sensing platforms; possibly they had more functions beyond that, as a PDA did for humans. And it was all going to be moot for Benny if she didn’t get a powerpack in less than thirty minutes.

Then she had an idea – if she could convince the Venerable Bede that Lola and Heidi were servitors, she could probably gain permission, or at least acquiescence, to have the powerpacks brought to her. She began focusing on the frog and Lola and the terms for service and slavery. With 15 minutes of power to go, she made her move.

‘Lola,’ she said. ‘I want you to crawl back the way we came and fetch new powerpacks.’

‘Crawl?’ asked Lola.

‘We haven’t found anything walking upright on this planet and I think a bipedal gate might startle them,’ said Benny.

‘What if they try to stop me?’

‘We need those powerpacks,’ said Benny.

Lola fell to her hands and knees in the water and started to crawl back towards the hatch. One of the fighting spiders moved to intercept but Benny was ready – she had already set up a couple of preset phrases and now she activated them. The external speakers on her suit let out a series of high-pressure gurgles that meant, Benny hoped, servitor, function, necessary, comfort.

The fighting spider allowed Lola to scuttle past and the Venerable Bede shifted forward – a sign of trust, Benny hoped. The wide-mouthed frog scuttled back to nestle in its master’s mouthparts and, once again, the gossamer strand spun out and attached itself to the back of its head – this time it stayed.

‘Greetings,’ said the wide-mouthed frog.

Goddess, thought Benny. It is a biological PDA.

‘Greetings and welcome,’ said the frog. ‘I am Woke Up One Morning Feeling Fine – who are you?’

Part Three

Analysis

Always re-examine your finds. Sometimes what you have is not what you think you have. Failure to do this may prove embarrassing at a later stage.

Archaeology for Primates, Martian University Press (2534)

Pre-colonial Civilisation on Jaiwan

Summary Abstract – Bernice Summerfield

1. SPECIES TERMINOLOGY

For a detailed biological and ecological summary, please refer to the report by RSM Chayanna Lopeti. After some consideration, the Jaiwan Archaeological Trust has decided to refer to the indigenous sapients as Spiders, their possibly non-sapient cousins as Fighting Spiders and the contemporary descendents as modern spiders. The two servitor species discovered at various sites so far will be referred to as wide-mouthed frogs and buttonmonsters but it should be noted that there seem to be many separate sub-species of both types. We do this not out of disrespect but for convenience and in the hope that the revived spiders will soon tell us their own name for themselves.

2. EVOLUTION

As yet we have no direct archaeological evidence tracing the evolution of the spiders but paleogenetic analysis indicates that they emerged approximately 600,000 standard years ago. We can assume from their physiology that their ‘natural’ habitat was the salt water littorals of the coast, but without archaeological data to confirm this we cannot know for sure. However, like most tool-using sapients, they quickly diffused from their origins and adapted to life in other habitats. As humans did with dogs, shaping a different species through selection into useful servitors, the spiders seem to have done in at least two cases: wide-mouthed frogs and buttonmonsters.

It’s widely speculated that spiders may exist in much closer symbiosis with these species than humans do with theirs, but there is no hard data to confirm this.

3. TECHNOLOGICAL AND SOCIAL DEVELOPMENT

We have, alas, a narrow context horizon for the planet of Jaiwan and so much of what follows must be treated as conjecture based on the

best data we have gathered so far.

3.1 Pre-agrilithic

While we have no direct evidence of a microlithic period, its existence can be deduced from the existence of more 'advanced' tools dated to later periods.

3.2 Agrilithic – c. 100,000 years before impact

Field walking in parts of the peninsula, around Rembrandt, Bon Sun and the boreal taiga area known as Brasswitch have turned up some interesting flint and obsidian tools characteristic of the development of early littoral aquaculture. In addition to harpoon heads and filleting blades, the frozen swamp beds of Brasswitch preserved organic artefacts, including nets of various gauges and sizes. One of these was far too large to be cast even by the largest spider but it could easily have been used as part of a fish trap or static cultivation pen.

3.3 Bronze Age – c. 11,000 years before impact

The oldest professional excavation on Jaiwan represents the Bronze Age. In aquatic and semi-aquatic species, the development of metals technology is often retarded in comparison to other skill sets. It is quite clear from the paleogenetic analysis of the burial remains on King Froggie's mound that the spiders had already begun the systematic modification, through selective breeding, of their servitor species.

It is important to remember that we have no direct evidence that links the King Froggie culture to later sites – it is always possible that they were guided by other developments in different locations of which we have no knowledge.

3.4 Iron Age – c.5,000 to c.3,000 years before impact

We have evidence, largely through field walking, of three distinct cultures that emerged during this period. These we have designated APPLE, BAKER and CHARLIE. These cultures are characterised by increasingly sophisticated metal artefacts and ornamentation.

3.5 Breeding Age – c.2,000 years before impact

There are signs of strong continuity between the CHARLIE culture and that of the dog pit site at Bon Sun. Analysis of the bones in the dog pit proper have yielded startling results; that the spiders of the dog pit culture had moved beyond selective breeding and into crude forms of genetic engineering before they had even learnt to harness steam power. Such scientific dimorphism, between biological and material technology, is not unknown but is very rare.

One reason advanced for this difference in capability is that it stems from the method of reproduction employed by the spiders. Their eggs have large nuclei, making intervention possible with the naked eye and the sheer quantity produced means that there is plenty of raw material for experimentation. Extrapolating from the behaviour of modern spiders, it seems that they have little concern for their young until they have reached adolescence, so taboos against manipulating their children are unlikely.

It is at the dog pit that we have our first indications of the existence of a fighting spider, which supports the theory that they were artificial, created from normal spider stock, rather than being a naturally occurring atavistic mutation.

3.6 World War – c.800 years before impact

We have direct evidence on the peninsula of full-on positional warfare involving the full industrial output of communities large enough to qualify as nation states. As yet we have no indication of what issues this war was fought over but destruction layers discovered at other sites indicate that it may have been global in scope.

3.7 Age of Desperation – 0-30 years before impact

Even though the evidence is scant we think that it is likely that the spiders may have had up to thirty years' warning of the impending collision. In this period, spider civilisation suffered the kind of violent dislocation recorded amongst other cultures facing existential threats. There is evidence to support the division of spider culture into at least two factions which we call the ALPHA CULTURE and the OMEGA CULTURE.

3.7.i Alpha Culture

Our evidence for the Alpha culture largely centres on the rocket base at the Nana-she-wallow, adjacent to the Rembrandt reservoir. As the name of the site indicates, this culture was technologically advanced and had a heavy lift capacity based on staged rockets with a kerosene-liquid-oxygen first stage and conventional hydrogen-liquid-oxygen second and third stages.

Preliminary analysis suggests that each stack was capable of lifting twenty tons into high Jaiwanese orbit (HJO) and there is some speculation that this may have formed part of a planetary lifeboat mission. It is also possible that the rockets were developed or adapted for a crash project to deflect the planetoid before impact. The fact that the rocket base was situated underground and fortified against attack means that it could be argued that it was either an adapted military base or that the rockets, whatever their intended mission, were

expected to become targets for some reason.

Whatever the intended role of the rockets, it is clear that the base was further retrofitted as a survival shelter and that the base was attacked and destroyed by use of a buttonmonster cluster bomb. Since there is no evidence of an attempt to re-occupy the base, it can be presumed that the attack took place very close to, or possibly even during, the impact event. Why the base was attacked is unknown.

The survival base close to the King Froggie burial mound contains artefacts and technology that show a marked similarity to those of the rocket base.

Accordingly we have designated that base as belonging to the Alpha culture as well.

3.7.ii Omega Culture

Omega was first used to designate the then-theoretical culture that attacked the rocket base just prior to impact. The buttonmonster servitors that carried out the attack belonged to the same gene stock as those subsequently recovered from the ocean base. It is important not to rush to any conclusions: just because an Omega-culture weapon was used does not mean that the whole culture was involved in the attack or that any part of the Omega culture was involved.

Our information about the Omega culture comes primarily from the data recorded while the Jaiwanese Archaeological Trust sought to recover living spiders from a deep-ocean survival base. Their material culture seems completely distinct from not only the Alpha culture but also all the earlier sites so far recorded. The use of sharp angles, linear features and flat planar surfaces seems a radical departure from, or even a conscious rejection of, historical precedent.

09: Negotiated Settlement

For the purposes of your [information/enlightenment/courtesy] the name of our species can be transliterated as the Laughing People Of The Floating World in its long form and Laughing People in its short form. The name of our [civilisation/culture/ethnic group] can be transliterated as the Way Of Life That Works or Life Works in its short form.

‘We were a quiet people. We did not aspire to the [stars/heavens/clouds] as you did. We wished only to live simple lives as our ancestors had done amongst the ochre swamps and wetlands of our planet. And this was our [sin/mistake/choice] because when our [astronomers/astrologers] found the [planet/comet/planetoid], we had no way to counter the threat. Some spent their last years [carousing/feasting/in sexual congress], others in contemplation of their [minds/spirits/education/memories], others killed themselves or in their [grief/ennui/despair] killed others. Some built shelters in the hope that something would survive and that they would be able to rebuild our [culture/civilisation/nation/ethnic group] again.

‘We thank the humans that came to our planet for waking us and while we do not relinquish our [claim/ownership] of our world, we [believe/hope/imagine] that we can find an accommodation that will [satisfy/fool] everyone involved. This is our [proposal/request/demand/final negotiating position]: that we be given time to explore our world and to evaluate the [damage/impact] humans have made. Then we shall [negotiate/bargain/wrestle] to find a solution.’

Source: Woke Up This Morning Feeling Fine.

‘Who did the translation?’ asked Benny.

‘They did, apparently,’ said Heidi. ‘Based on all that babbling you did at first contact.’

They had nested comfortably amongst the supplies in the back cabin of a Fulcrum as it made the short hop south. Nearby, Shawnee had curled up and gone to sleep on a pile of kitbags. It was amazing how fast you could get used to something, even routine suborbital transport.

‘They’re so very clever,’ said Benny. ‘Clever and aggressive. Is that General Lafayette’s interest – as allies?’

‘I wouldn’t presume to know the general’s mind,’ said Heidi. ‘But it seems unlikely.’

‘Why?’ asked Benny.

‘Well, a current population in the low hundreds,’ said Heidi, ‘puts a bit of cramp on their military potential.’

‘They spawn like frogs,’ said Benny. ‘Thousands of viable hatchlings

with every mating. All they have to do is hold back the natural predators and instant population explosion.'

'Just add water,' said Heidi.

'And they retro-engineer living organisms and produce autonomous biological combat systems,' said Benny. 'And let's talk about what kind of ship pilots a species that is naturally hardwired to operate in a three-dimensional environment are likely to make.'

'And you think the general has thought of all this?' asked Heidi.

'Why not?' asked Benny. 'I have. My dad would have. How can she not?'

'Maybe Lafayette isn't as machiavellian as your dad,' said Heidi.

'I'll bet she is,' said Benny. She shifted a kitbag into a more comfortable position. 'Who was Machiavelli anyway?'

'He wasn't anyone,' said Heidi. 'It's just a word – like scheme or tenderise.'

'I thought he was a real person,' said Benny.

'Google him then,' said Heidi.

'I don't want to,' said Benny. 'To be honest, I think I'm beginning to run out of room for new facts.'

'They would make good allies,' said Heidi.

'Even if it means dispossessing the entire human population?' asked Benny.

'It won't come to that,' said Heidi. 'There'll be a deal, you'll see. There always is.'

The pilot pulled another three-g landing at the new regimental HQ but Benny was getting used to them too. So was Shawnee, who slept right through it.

At first sight, the new location looked like a series of landscaped, grass-covered hills arranged around a small central lake. It was only when Benny had a chance to get her bearings that she realised that the hills were camouflaged geodesic domes.

'Welcome,' said Heidi, 'to Lalaland.'

'This is an old colonial outpost,' said Benny.

'Simone found it,' said Heidi. 'Dates all the way back to the foundation of the colony. Used to house a detachment of Flying Dragon mercenaries.'

A mercenary defence force was pretty standard for a colony beyond the Coalsack. Cheaper to hire in professionals who would stay for a generation or two and then move on to the next start-up. The Flying Dragons were legendary for their discipline and bizarre attachment to ancient rituals.

There was one large dome in the centre surrounded by satellite domes of varied sizes, which housed barracks, stores and vehicle

parks. Command HQ wasn't located in the main dome but in an underground bunker invisible from the surface – the Flying Dragons had also been famous for their paranoia.

The First Combat Archaeologists put their HQ in the main dome, where a veranda gave out onto a view over the lake. A small detachment was formed however to restore the underground HQ to its original glory – for reasons of historical preservation.

'Because,' said Benny, 'when you've spent all day digging up the past what you really want to come home to is more archaeology.'

'And a really deep bunker,' said Chay. 'Just in case.'

Benny had had just enough time to sit down at her rather nice early colonial desk and have a cup of tea when Shawnee came running in with the bad news. Apparently they were no longer the only people interested in archaeology on Jaiwan.

Reconstructing what had happened wasn't hard. The target had been an area of meadowlands interspersed with light woods and so the first thing they did was drop in a swarm of tree-eaters. Chay found some that had expired before recall, termite-sized robots that ate tree cellulose and shat sawdust.

Operating in swarms, they could clear out a hundred square metres of forest in less than an hour, right down to the roots.

Chay said that from a distance the process sounded like a beehive trapped in a wind tunnel speeded up to a point just short of being inaudibly high.

Dogs and other sensitive creatures would vacate the area just about as fast as they could run.

While the trees were noisily dying, the Robbers had placed a grid of shaped charges around the site and simply blown the topsoil off the archaeology. It was the heat bloom from the explosions which got the event flagged by the satellites overhead but it didn't register as urgent so the regiment only got a report the next day – hidden amongst the rest of the routine traffic. They had a day until anyone noticed and a day was all they needed.

They'd gone over the site with mag scanners and mechanical diggers and simply lifted anything that looked promising along with the half a ton of earth around it. The regiment's assessment team found flooded areas to the north and south, where high-pressure hoses had been used to remove excess soil.

Ironically, where the satellites had ignored the heat bloom, Simone's software was particularly slanted to earthworks. She told Benny and they'd pulled one of their pilots out of his Tenday morning lie-in and flown straight there.

When Benny saw what they'd left, she kicked the Fulcrum's landing

gear.

The ground had been gouged out in great rectangular bites; the archaeology had been destroyed, any context obliterated.

‘I was not angry since I came to France,’ said Simone beside her. ‘Till now.’

‘What the hell were they looking for?’ said Benny.

‘There’s always a market for artefacts,’ said Simone.

‘From Jaiwan?’ said Benny ‘Already?’

‘Novelty and antiquity,’ said Simone. ‘Tempting combination.’

Benny knew all about the antiquities markets – there were three. At one end there was the legal market: artefacts and antiquities were traded and auctioned with full documentation. At the other, a ‘black’ trade in undocumented, illegal or dangerous artefacts. Larger, by an order of magnitude, than either of those was the ‘grey’ market. Artefacts, technologies and indescribable items that just didn’t have as complete a set of documents as one would like. She knew it well – a freelance archaeologist, almost by definition, operates within the grey market.

‘No,’ she said. ‘It’s much too soon for an operation this sophisticated. The main markets for antiquities are all the other side of the Drift. Jaiwan will have barely registered with them. There’s something else going on here and I’m going to find out.’

‘Cause you’ve got so much free time,’ said Simone.

‘Yes, actually,’ said Benny. ‘Fargo runs the office, you and Heidi run the diggers – I think I’ve got some time for an investigation. If we can at least recover the artefacts, or better still their mag scan logs, we might get some... use out of this vandalism after all.’

You don’t sling krill on a series of free-traders without learning something, and one thing you learn is there’s no point in asking a captain what their cargo is – not unless you work for customs and excise, and even then... you don’t ask the purser or the supercargo, and generally the engineering gang don’t even care what they’re carrying. The people to ask are the able spacers, them as had to stow the cargo in the first place, aye, and then swab the deck as needs be. It doesn’t matter whether it was a corporate freighter or a tight-knit family trader, there’s always someone at the bottom, feeling downtrodden and who will, if sufficiently lubricated, tell you whatever you need to know.

To find where these stalwart travellers drink, you first locate the bars and sleepovers where the captains drink and then get as far away from them as you possibly can without getting more than 15 minutes’ walk from the starport.

Jop, Jaiwan’s south-eastern starport, wasn’t very busy, so there was

only one really low dive for spacers and being located on a long, thin island meant that it was uncomfortably close to the senior officers' establishments.

Perhaps, thought Benny as she negotiated a narrow flight of stairs, that is why it's built in a basement. There couldn't be any other reason because there was a vacant lot on either side of the building. A sign in recherche neon letters advertised the place as the 'UNCERTAIN GRASP OF THE FACTS – BEERS AND SPIRITS'.

Inside, it was dimly lit, low-ceilinged and unfriendly – Benny's kind of bar, in fact. Despite the decor, the clientele weren't that miserable. A seabird played the kind of sentimental mood pieces that spacers like – *The Skycaptain's Daughter*, *Sloop Johennesy* and *Take the Sky From Me*. Under the seabird's holograms, a couple were slow-dancing to Yanna Coon's latest ballad. The man had different ship patches on his jacket to the woman so it was probably yet another 48-hour romance but, as Yanna Coon always sang, a spacer takes her comfort where she can.

Goddess, but she hated that music.

She sat down at the bar and ordered a crimson pirate – equal parts ouzo, rum and raspberry-flavoured syrup. Two years ago, it had been a favourite shore-leave cocktail but now just the smell of it was making her eyes water.

She sipped her drink and waited. As an apparently single, upright, warm-blooded biped in a spacers bar, it was only a matter of time before someone tried to hit on her. There was some delay while the clientele tried to work out which way Benny liked to orbit but halfway through the last verse of *My Love Is a Deep, Deep Well*, a ginger guy in a green ship-suit sat down next to her and asked her if she wanted a drink.

His name was something exotic with an apostrophe in it so Benny just called him Ginger to save time. She persuaded him to take her over to his table and introduce his friends. It didn't take more than a round to convince Ginger that a night of meaningless sex was not going to happen but he didn't seem to mind. There were plenty of VR packages that could give you convincing sex but what you really craved after a month in space was somebody new to talk to. Two more cocktails in and it wasn't that bad an evening – they played a couple of hands of one-eyed poker and finished off in a dockworkers cafe for potfish grill.

The cafe was down an anonymous alleyway and Benny never forgave herself for not making a note of the address. It was well-scrubbed and Spartan in the Jaiwanese fashion and the potfish grill was quite simply the best thing Benny had ever tasted. By that time they were down to five: Benny, Ginger, a young local woman who was trying to get off with Ginger and a pair of techs from a corporate

freighter. It was a comfortable number and as they ate their potfish they sobered up enough for Benny to get some information out of them.

It was just as well that the food was good because nobody was shipping antiques off-planet. 'And I know that for certain because,' said Ginger with the absolute conviction of the drunk, 'if anyone were selling, I would be buying. I love antiques, me. I'm a collector.'

The techs nodded sagely and the local woman burped decorously and then giggled behind her hand. 'I think they're being stored in a warehouse on Coin Street,' she said. 'One of the really big ones.'

'What makes you say that?' asked Benny.

The woman frowned. 'Heard some people talking.'

Ginger didn't like being excluded – he leaned in and winked at Benny. 'I know this brilliant sleepover,' he said. 'Why don't we all share a room?'

'Excellent idea,' said Benny, standing up. 'I'll just make a quick run to the ladies.'

Benny waltzed away from the cafe and off towards Jop town. She headed down the highway, keeping to the pavement with exaggerated care. It was another sweaty peninsula night and the street lamps and warehouse light strips blurred in the humidity, making Benny feel queasy as well as hot. She hadn't booked a hotel room when she'd arrived and she realised that she had no idea where she was going.

When she saw the two big warehouses on her left it seemed, at the time, like the most natural thing to have a quick look.

There was a small human-sized door set into the massive gates that formed the front of the warehouse. There were no visible alarms and no signs saying that trespassers would be prosecuted, shot or barbecued. When she tried the handle, the door opened without any fuss.

Benny stepped inside.

The interior was brightly lit, almost sterile. Even so, it took Benny a couple of minutes to work out what she was looking at. At first, she thought it was an oddly shaped corridor wall curving gently outwards until it became the ceiling – it was only when she recognised the half-metre-high protrusions as a raised tread that she realised she was staring at the base of an enormous caterpillar track.

Carefully keeping her mind in neutral, Benny walked to the edge of the warehouse, where there was a couple of metres' gap between the wall and the track, and looked around the corner.

The warehouse was completely filled with one monster-sized vehicle. The track she was standing by was at least thirty metres long and there were nine more supporting the gargantuan weight of the

machine. It was painted a metallic blue with red livery and golden go-faster stripes the width of a runway. Even though there was no dust and the paintwork was freshly polished, Benny felt the machine's age – something in the design spoke to her of a bygone age of expansion and pioneer spirit. She'd studied the design of a similar machine during a short flirtation with industrial archaeology. It was one of the infrastructure AIs – one of the Lovers.

Three storeys above her head, she could make out the letter 'P' in sans serif lettering twenty metres high. The next letter was an 'E'. This was Perky – the railway builder.

The embarkation gantry was just beyond the second set of tracks and in the down position so that the lift doors stood invitingly open at floor level. It was more elaborate than Benny expected; the banisters were black wrought iron, embellished with curlicues and leaf flourishes. The handles on the lift door were white porcelain and brass; the interior walls were panelled with polished black kwumtree. Benny stepped inside, the cage doors closed behind her and the lift started smoothly upwards.

Is this wise? she asked herself blearily. But when had that ever stopped her?

The lift doors opened onto a promenade that ran the length of the vehicle.

The original utilitarian guard rails had been replaced by more wrought iron and polished brass. There were deck-chairs and white cafe tables at regular intervals and the floor was made of varnished planks of blonde wood. Perky was displaying a distinctly nautical bent.

'Hello,' called Benny, just in case. 'Anyone home?'

By definition, an AI doesn't need a control room but Benny found an observation deck at its prow. It was decked out in the same Jules Verne nautical motif as the rest, with brass telescopes fixed to stands at intervals along the sweep of bay windows.

The decor and the silence made Benny feel vaguely lonely and sad. It might have been the thought of this great machine alone and dreaming in a warehouse while little people took its work for granted – or it could have been the alcohol. It was probably the alcohol.

'Hello,' she called. 'If the controlling intelligence is active, could it please show me the way to the bathroom?'

There was no response except for the barely perceptible hum in the walls.

'Oh,' said Benny. 'Too late.'

She didn't feel any better even after she'd thrown up two litres of crimson pirate and a kilo of potfish grill. Benny was in the awful

private hell of someone who's just emptied their stomach and is not going to make it out of stink range before they pass out.

There was a long couch against the rear wall and Benny made for that. It had quilted leather upholstery with button details and curlicue stitched edge.

When Benny lay down, it felt very comfortable indeed.

She dreamt they held a karaoke night at the dig. Lola sang *24 Lightyears From Your Heart* and the Professor sang the first verse of *Life On Mars* but not with the lyrics that Benny remembered the song having.

The pool of vomit was gone when she woke up. As she sat up massaging her flat face back into shape, she found that a small occasional table had been set down by the head of the couch. On it was a tall glass of water and an elaborate ormolu clock in a glass dome. A white tablet was fizzing at the bottom of the glass.

Benny took the glass and drained it.

'I don't suppose there's any chance of breakfast?' she said out loud.

She put the glass down and looked at the clock. It had an unusual face with only five divisions and two hands – both long. One hand swept around the dial every second as, Benny realised, the clock counted down from five to zero. A five-minute clock.

'Okay,' she said. 'I can take a hint. I know when I'm not wanted.'

It was mid morning when she emerged from the warehouse and the heat was building up. Benny walked back to the air-conditioned cool of the train station and paid for a shower and a personal valeting. The Jaiwanese were keener on communal facilities than Benny liked but the long, whitewashed changing room was empty – she dropped her clothes in the hopper and showered while they were cleaned and pressed. While the shower heads ranged up and down, Benny planned her next move. It was pretty well known that the regiment was based largely at the southern end of the railway – the smugglers could be playing it safe and shipping the artefacts out of the northern starport. She took her PDA from the clip provided in the shower stall and booked a ticket on the Crossworld Express.

The shower blew her dry and she stepped out to find her clothes on a bench – neatly folded and piled with Jaiwanese precision.

The Crossworld Lightning Express ran directly from one starport to the other, only stopping at Crystal Peak halfway between. It ran to four single-decker carriages, including a dining section and sleeping cabins; it was luxurious, surprisingly inexpensive and heavily subsidised by the Jaiwanese government. It had its own platform on the northern side of the station, where it caught a fresh breeze off the sea.

The canopy above the platform had been fashioned from a white-ribbed polymer and shaped like the sweep of a loose awning in a breeze. It was unmistakably one of Pinky and Perky's designs and Benny wondered what the huge machines were dreaming of in their twin warehouses a little way down the track.

The train was already waiting so Benny climbed aboard and hunkered down in her seat with mushroom wrap and a biodegradable cup of coffee.

The air conditioning made her shiver so she pulled her jacket tight around her and stared out over the ocean. On the horizon, she could just see a smudge that might have been the peninsula – or some lowlying cloud.

The train had just started to accelerate out of the station when her PDA woke her up. It was Heidi – another site had been robbed out. 'Obliterated,' said Heidi. 'Almost as if the primary purpose was to destroy the archaeology not to steal it.'

'Could this be amateurs?' asked Benny. 'Copycats?'

'They used the same techniques as the last bunch,' said Heidi. 'So I doubt it.'

Obliterated, thought Benny. To what purpose?

'Perhaps this is political,' said Benny.

'I hope not,' said Heidi.

'I'm heading up north to check out possible transshipment routes,' said Benny. 'I'll call you when I get there.'

They had just shot through Reconciliation when Benny decided that she couldn't wait for the refreshment trolley and got up in search of a cup of tea and something sticky. She made a guess at the direction of the dining car and, on her first attempt, found out where the baggage car was. With the great Augustus Sod suitably satiated, she turned around retraced her steps and headed in the opposite direction.

She practically tripped over Mr and Mrs Bad Haircut in the dining car.

She didn't recognise them at first, mesmerised as she was by the sight of a gleaming silver samovar and the sweet trolley. It wasn't until the woman standing less than two metres away flicked her badly styled fringe off her forehead that Benny realised who they were.

It was the couple that had stared at her in the restaurant in Rembrandt.

The couple, Benny realised, that had first eyeballed her and then probably tried to kill her.

Benny did a neat turn on her heel and walked quickly away.

They couldn't be looking for Benny because they hadn't checked the rest of the train but she couldn't believe that them being on the train

was a coincidence. Retiring to the baggage car seemed the safest course to Benny; they were unlikely to stumble upon her there.

And while she was there she might as well rifle through their luggage just to pass the time. There was a level of automated security protecting the baggage car but compared to what Benny was used to circumventing on a starship it was laughable. Since she didn't know the proper names of the Bad Haircuts, she went through everything she could find. Benny's shady past had provided her with a number of programs that dealt with the electronic locks and the physical locks were easy to pick. She found what she was looking for in a stack of gun cases of mauve-coloured ballistic plastic. A couple of diamond-shaped stickers proclaimed the contents to be laboratory equipment. They didn't make any further effort at concealment – it was that blatant.

The cases were cushioned with memory sponge and filled with a dozen artefacts of varying sizes. Each item had been bagged and tagged in an acceptable, if amateurish, way. She recognised the twisting curves so distinctive of the Alpha culture and the period just before the impact – the so-called Age of Desperation. Benny had practically memorised every legitimate find on the planet and none of these matched, which proved that they came from the robbed-out site.

But why raid that site? Amongst the kind of collectors who patronised the grey market, pre-industrial artefacts always fetched a higher price than manufactured goods. People just had to have that antique, hand-carved 'thing' – uniqueness and novelty dictated beauty to the aesthetically challenged.

The site had been targeted with precision, as if the robbers were after something specific, but were the Bad Haircut twins involved? They hadn't struck Benny as connoisseurs of truth and beauty. Time to call in reinforcements, she thought and pulled out her PDA.

The screen flashed an unfamiliar icon at her, an antenna in a circle with a line drawn diagonally through it. She was so used to universal coverage that it took Benny a few moments to recognise it as the 'no signal' icon. Losing signal on a modern train was unthinkable. Apart from anything else, a system crash would have stopped the train, which meant that she must be being jammed.

Which meant that the cases had been alarmed.

And that the Bad Haircut twins were probably on their way to investigate.

One artefact particularly caught Benny's eye, a twisted cylinder that fitted comfortably into the palm of her hand. There was a flat, recessed section with inlaid circuitry at one end that Benny identified as the remains of a display. At the other was a trio of fisheye lenses that could be for a recording camera or transferring optical data. This

was a data storage device, Benny was certain of it, something they hadn't found at any of the other sites. She put it in the inside pocket of her jacket – if she retrieved nothing else she had to have that. Then she stroked the memory sponge so that the artefact's ident vanished, closed and locked the case. That should buy her some time.

She stepped smartly out of the baggage car, through the swish doors and into the next passenger car. She needed an empty seat so that she could hunker down and look asleep. Whatever else they were, the Bad Haircut twins were criminals not agents of the state: they couldn't stop the train or search passengers without causing a fuss.

Too late. Mr Bad Haircut came through the connecting doors at the far end, his missus following close behind. He didn't even hesitate, just reached into his jacket and pulled out a gun.

Benny spun as fast as she could. Should she dive behind a seat or run back to the baggage car?

She heard a bang and somebody hit her in the back with a sledgehammer.

She found herself face down in the aisle and breathing the carpet. She realised she'd been shot but obviously Heidi hadn't been joking about the ballistic armour sewn into the jacket.

Her back felt stiff but the pain was still far away. She kept her head down, face into the short-weave carpet that smelled of dust and spilt coffee. Would they run or would they walk back up to finish the job? Benny had spotted at least six witnesses in the carriage who, if they were sensible, would be trying to hide under their seats. Professionals would finish the job. One would approach while the other stood guard and then they'd activate their exit strategy. Professionals wouldn't have boarded the train without an exit strategy.

She realised that she could see their reflection in the polished chrome finish of a seat support on her left. Mrs Bad Haircut still had her gun out but the pair were vacillating – unsure of what to do next. Amateurs, then. Benny felt a rush of relief. Amateurs might just panic and run away.

No such luck. The Bad Haircuts started cautiously up the aisle towards Benny, she was in front with the gun, he was behind. Fanatic amateurs, then – the worst kind.

The odd thing was how detached she felt about the danger. Facing the wall of water at the rocket base had been worse – hell, losing Shawnee at the rocket base had been the worst fear she'd ever felt. Mr and Mrs Bad Haircut were just ordinary, stupid human beings – she could deal with them.

As soon as they got close enough, Benny kicked Mrs Bad Haircut in the right knee. Benny was still wearing her work boots. Suitable for field archaeology, waterproof, acid resistant, cultured leather uppers

and bonded polymer soles – they were hard boots, in both senses of the word. Benny felt a satisfying crack as her heel struck home and heard a shriek. She kicked again, a short vicious jab before the woman could recover.

She pushed off from the seat supports and came up as fast as she could, felt her shoulder slam into the woman's face, saw the gun hand and grabbed it. The woman was still shrieking as Benny smashed her wrist into the side of chair – once, twice – the gun spun off into the chair.

Something slammed into her from behind, the man or the woman – it didn't matter. Benny snapped her head back into the woman's face, saw stars, felt cartilage crunching – the shrieking stopped.

If the man was armed, he probably wouldn't risk a shot with Mrs Bad Haircut in the way but Benny had to retain the initiative. She pushed back, ramming the woman back into her partner so that he was forced backwards.

The woman was sobbing and making odd bubbling sounds that made Benny think she might have done something serious – Goddess, but she hoped so.

She spun round and used her momentum to catch the bitch in the side of the head with her elbow. The woman just dropped at her feet and Benny found herself facing Mr Bad Haircut, who took an involuntary step backwards. He was armed but he had his gun pointed at the ceiling. Benny grabbed his wrist with her left hand and kicked him soundly in the testicles.

As he toppled backwards, Benny snatched the gun out his hand and took two steps backwards. She checked the safety and covered the pair on the floor.

The woman wasn't going to get up in a hurry but humiliation was about to make the man do something stupid.

'Listen,' Benny told him, 'I'm really pissed off and I will shoot you if you try to get up.'

After a couple of shocked and breathless minutes, things began to happen: people panicked, stewards arrived and then called the conductor, who called the police, who arranged to be waiting for Mr and Mrs Bad Haircut when the train stopped at Crystal Peak.

Benny would have thought they would have been taken off at the next stop, but apparently the Crossworld Lightning didn't stop for anything – not even gunfights. Benny also wondered who, since she'd been watching the Haircuts, had turned off the jamming. She moved the Bad Haircuts into the baggage carriage at the far end of the train and made them sit on the floor with their hands tied behind their backs. Then she sat down with her back to the wall, where she could

cover them, the stolen artefacts and the only entrance with Mrs Bad Haircut's gun.

She had no intention of being shot in the back a second time.

They rode for a while before the silence got to Mr Bad Haircut.

'You can't stop us,' he said. 'It's our planet and you can't take it away.'

Benny gave him a blank stare.

'There are thousands of us – millions,' he said. 'We have people all through the government, in the militia and the police force. We have a right to defend what's ours...'

His partner kicked him hard in the leg and glared furiously at him until he shut up. The woman glanced at Benny and, bizarrely, they exchanged looks of mutual exasperation. Benny shrugged and gave the man a contemptuous look in the hope of sparking him off again. It didn't work. Mrs Bad Haircut obviously had him well and truly back under control.

They spent the rest of the journey in silence.

When the train pulled into Crystal Peak, Benny stayed put and waited for the police to come and take the Bad Haircuts away. With the police came a polite young man in a classic suit. Benny recognised him as the presidential aide from her last visit. She gave him a polite nod.

'Mr Paramita,' she said.

'Ms Summerfield,' he said. 'Actually, it's Agent Paramita now.' He handed her a card which identified him as a special agent of the Jaiwanese Bureau of Antiquities.

'A new job,' said Benny.

'A whole new bureau,' said Agent Paramita. 'And you're responsible.'

'I'm sorry,' said Benny. 'I don't do it on purpose, you know.'

'Don't apologise,' said Agent Paramita. 'I went up three pay grades.'

'Do you know who those two were?' asked Benny.

'That's a separate investigation,' said Agent Paramita. 'I'm here about the antiquities.'

'Because you're with the Department –'

'Bureau,' said Agent Paramita.

'Sorry,' said Benny. 'The Bureau of Antiquities. So, you're here about the antiquities – yes?'

'Nah so,' said Agent Paramita.

Benny felt a prickle on the back of her neck. 'You wish to catalogue them – yes?'

'I'm afraid not,' said Agent Paramita. 'I'm here to organise their safekeeping.'

'You're confiscating them?'

'I'm taking possession of them on behalf of the Jaiwanese government.'

'We were hoping to study them,' said Benny.

'It will merely be a matter of making a formal request,' said Agent Paramita.

Benny stayed to watch them unload the artefacts and transfer them to an airvan.

Just for a moment, Benny caught a glimpse of Bad Haircut as he was led away by the police. Despite being cuffed and manhandled, he managed to give Benny a last manic look of triumph before he was out of sight. The look bothered Benny; she wondered what the hell he knew that she didn't.

Agent Paramita gave Benny an ironic salute and then climbed into the airvan. Benny watched it climb up amongst the subsidiary spires of Crystal Peak station. Then she called the only person she knew that actually lived in the capital.

Lola had an apartment in the Spire, an open-plan sweep of tasteful blue and green that was dominated by a picture window six metres long. Standing in front of it, Benny could look down on the Station Hotel where they'd stayed during the riot.

'It seems peaceful tonight,' she said.

Lola handed her a glass of wine. 'We're a quaint and rustic people,' she said. 'We only have riots on special occasions.'

Benny sipped the wine. It was different from the Muvrad, fruitier and yet drier – if she was going to drink wine she realised she would have to acquire a new vocabulary. 'This is nice,' she said.

'Sidetrack Grenache,' said Lola. 'The vineyards are close to where I grew up.'

She waved Benny onto a long couch, which sighed contentedly as it adjusted its shape for Benny's maximum comfort.

Lola wanted to talk about what had happened on the train with, no doubt, the camera in her eye stud recording all the details. Benny told her the basics and was surprised at her expression when Benny told her about being shot in the back.

'I'd have wet myself,' said Lola.

'I don't know,' said Benny. 'My life has been threatened so often recently I think I'm beginning to get blase about it.'

'Well, you're safe here,' said Lola with such seriousness that Benny suspected she was being sarcastic. 'I've got a state-of-the-art security system.'

Benny felt herself slumping into the couch – Lola noticed.

'If you like,' she said, 'the couch converts into a bed.'

‘That would be lovely,’ said Benny.

‘Fine,’ said Lola briskly. ‘Let’s do that, then.’

Lola had two long shelves in her lounge devoted entirely to dolls. As far as Benny could tell, they weren’t collectors items and although some of them had ethnically distinct costumes there was nothing to suggest a pattern in their dress. When Benny had asked Lola about them she’d shrugged.

‘They’re just my dolls,’ she said and changed the subject.

They gave Benny the creeps when trying to sleep on the couch. The slash of light pollution from the picture window hollowed out their eyes and cast elongated shadows up to the ceiling. Benny tried darkening the window but that just meant she imagined them staring at her – which was far worse.

In the end, Benny put the light up to three quarters, rolled to face the other way and tried not to think about it.

Chay picked her up from the lobby the next morning. Dressed in civvies and wearing Ray Bans, he was leaning against a streamlined ground-car with its body colour tuned to firebrick red – Benny recognised it as a Sabre, Jaiwan’s one locally produced muscle car. As she approached, he grinned and lifted the passenger door.

‘I’ve figured out why they won’t have you in the military,’ he said.

‘Why’s that?’ asked Benny.

‘They can’t afford the insurance premiums.’

The interior smelt of linseed oil and expensive moving parts. The seats adjusted to clutch at her hips as she sat down and the door closed itself with a self-important clunk.

‘Where did you get this?’ asked Benny as Chay climbed in beside her.

‘It’s mine,’ he said and reached back to fish amongst the rear passenger seats. ‘I won it in a sweepstake just after I was posted here and I’ve had it in storage ever since.’ He came back with a tan leatherette shoulder holster, which he dangled in front of Benny. ‘The major says you’ve got to wear this.’

Benny sighed, shrugged out of her jacket and traded it for the holster. What could she say? There were holes in the back of her jacket. The rig was expensive, top of the line, with a horizontal draw so she wouldn’t catch herself and a double clasp to make sure it didn’t fall out at social occasions.

A mag holder was on the right side for reloads and balance. She essayed a couple of experimental quick draws – the Ladygun slipped into her hand with a kind of over-familiarity that she found distasteful.

‘You don’t have to like it,’ said Chay, handing back her jacket. ‘But

we'd all feel much better if you carried it.'

Benny looked at Chay. Nobody ever asked what you were going to do after the war because nobody believed that the war would ever end. You didn't even ask what someone was going to do once they were out of their bit of the war – that was an acknowledged jinx. You might as well send them to the front with a target on their chest. Officially, the casualty rate was five per cent but everyone knew that for frontline troops it was close to seventy per cent and those that came back, came back changed.

Don't make friends – it's so much safer that way.

'Assuming you don't die,' said Benny, 'what are you going to do after the war?'

Chay put on his Ray Bans and switched the car to manual. 'I will be an archaeological surveyor,' he said and pulled deftly out into traffic. 'And the playboy of the spaceways.'

The newly formed Bureau of Antiquities was obviously feeling its oats because they wouldn't allow access to the artefacts. 'We're perfectly happy to let you choose where and how we conduct the examination,' said Benny.

The BA official at the other end of the com shrugged. 'The decision has been made,' she said. 'No access until the cultural treasures have been catalogued and assessed by Jaiwanese specialists.'

'Is it possible to talk to Agent Paramita on this subject?' asked Benny.

'Regrettably, Agent Paramita is in the field,' said the official. 'But I would be happy to pass on a message.'

'Could you ask him to call Director Summerfield at his earliest convenience?' said Benny.

'Of course,' said the official and that was the end of that.

Agent Paramita wasn't going to call, Benny knew that, but it didn't feel like straightforward institutional power play.

'Archaeology,' the Professor had once told Benny, 'is not like normal life. The first rule is – when you're in a hole, keep digging.'

She looked out of her office window at where a group of off-duty diggers lounged around the central lake. The First Combat Archaeologists had quickly divested themselves of their uniforms, but she could still see they were soldiers. They were a powerful instrument but Benny didn't kid herself; they answered to Heidi and beyond her to General Lafayette.

As the Professor has said – sometimes it's better to use a brush than a shovel.

Benny went back to her room and took out the data-storage device. One of Pilar's team at the rocket base had developed a protocol for

recreating the screen and her own PDA could match the data-entry port. It took her less than half an hour to jury-rig the device so that it was happily drawing power from the universal socket on her desk. That it could still do this after ten thousand years struck Benny as significant. It implied that the device had been designed to survive even if its makers did not – a time capsule.

Simone could probably process the data faster – hell, there was a creepy-looking bald albino spec two in Alpha Company who could probably extract more data by licking the screen but Benny wasn't ready for the regiment to know. Not until she had confirmed her suspicions.

She'd put in a request a week earlier for a copy of the spiders' translation matrix but the query went unanswered. Luckily, the Omega spiders had included a version of their original statement in their own language – if they'd wanted to keep their language secret had been their first mistake.

To create the start of a translation matrix from that basis, Benny used one of the oldest programs from the Professor's database – it was called, appropriately enough. Rosetta.

The data itself was laid out in a simple binary format and started with the classic prime-number sequence. Obviously, the designers and archivists had faced the possibility that the spiders would not survive as a species.

Unfortunately, they'd had no actual experience of alien contact so there was a great deal of 'Hello, this is what a hydrogen atom looks like' stuff to wade through before the good stuff, Isxith of Pavonis – that rarest at rare breeds: a Martian satirist – had once written that the very first message one culture should send to another should be, Let's put the guns down at the same time. On the count of three. Two...'

'Are you all right?' asked Heidi at supper.

'Tired.' said Benny. Even with Rosetta, there was a lot of grunt work involved in translation. The program called on Benny to make word selections based on context and Benny had spent three hours choosing words on gut instinct and whimsy. The program made generous allowance for guesswork but it was still recording a probable accuracy of less than 15 per cent.

The inner core. Simone, Heidi, Benny, Chay, and Shawnee, still had supper together most nights as a comforting holdover from what Simone referred to as the ante-regimental period. That mixing civilians. non-coms and officers at the same table was probably non-regulation and detrimental to discipline and good order was blithely ignored by Heidi.

That night. Benny had trouble keeping up with the banter. Her mind kept circling back to the storage device and just how she was going to break the news to the others.

10: The Way of Life That Works

The sea was less than two clicks away from Lalaland. On the next Tenday, once Simone had confirmed the weather, Major Maputo declared a surprise logistics-and-fitness exercise to take place on the nearby littoral interface. Regimental Sergeant Major Lopeti phrased the order thus – ‘Grab your gang-gangs, people. We’re having a feastie on the beach and last one there does clean-up.’

Heidi pulled rank and grabbed the newest of their ATVs, the one with non-stick seats and the working air conditioner. Benny, Shawnee and Simone piled in behind her and they roared off, leaving Chay behind to organise guard duty.

It was, even Shawnee had been forced to admit, a better beach than those on the peninsula, being less humid, less swampy and containing a stretch of shining sand as far as the eye could see. Benny watched her running back and forth amongst the breakers, wearing an unsuitably abbreviated swimming costume. She wasn’t sure which was disturbing her more: that she was fighting the urge to tell the girl to cover up or that the younger diggers didn’t look much older than Shawnee. Heidi, in deference to the dignity of her rank, wore an orange one-piece which, while demure, appeared to be under a great deal of stress. Benny wore a tank-top-and-shorts bikini that Simone had cruelly labelled the swimming burqa.

She’d never felt comfortable showing skin.

Not a phobia that afflicted Chay, who arrived at the beach in a pair of spray-on swimming trunks that provoked a chorus of wolf whistles from the lower ranks. He had the picnic hamper slung over one rippling shoulder and a beach umbrella over the other. Shawnee grew noticeably bright-eyed as he approached, Heidi just sighed and Benny found herself wondering just what it was she wasn’t seeing when she looked at him. Simone caught her eye and winked.

She was wearing moisturising lotion. ‘Don’t want to dry out,’ she said.

Chay put down the hamper and drove the umbrella into the sand.

‘He’s so manly,’ said Heidi.

‘We aim to please,’ said Chay.

Simone mimed gagging herself with her index finger.

Chay opened the umbrella and clicked a switch on its stem. There was a faint hum.

‘It’s on,’ he said.

‘Okay,’ said Heidi. ‘We’re away from the base and shielded by an ECM –’

‘Umbrella,’ said Chay.

‘Shielded by an umbrella. Presumably from spy satellites,’ said Heidi.

‘What exactly is it you wanted to talk about?’

‘I accidentally retained one of the artefacts recovered from the robbers,’ said Benny.

‘Accidentally,’ said Heidi.

‘I put it in my pocket for safekeeping before the fight,’ said Benny. ‘It was a data-storage device, a time capsule if you will, and I translated it. If my translation is correct then we are all in big trouble.’

‘Of course we are,’ said Chay. ‘What was I thinking?’

Benny rubbed the sore spot between her eyes. ‘We know that there were at least two rival cultures on Jaiwan before the impact – the Alpha and the Omega. We also know, because they have confirmed it themselves, that the Way of Life That Works spiders are the Omega faction.’

‘And we know,’ said Heidi, ‘that they are not the most morally upright of sapients because they took advantage of the impact to destroy their rivals.’

‘Precisely,’ said Benny. ‘But what we did not know was that the Omega faction caused the impact to happen in the first place.’

‘Oh,’ said Chay. ‘We’re in trouble now.’

‘That’s what I said,’ said Benny.

The storage device had been updated by a faction of the Alpha culture which had elected to stay above ground and bear witness to the impact. They called themselves ‘the last people to speak clearly’.

You had to assume some level of bias but, even so, the facts as recorded were clear. The Omega faction had launched a series of crewed space missions using their absurdly underpowered rocket motors and diverted the course of the planetoid. At first, they claimed that it was an ambitious scheme to bring the rock into the orbit of Jaiwan so it could be mined but the Alpha culture had its own space experts – they didn’t agree. Once it became clear that the plan was to eradicate their opponents from the face of the planet, much of the Omega activity became clear. The deep-sea survival bases, the stockpiling of supplies and the advanced biochemical technology to make long-term hibernation possible.

‘I don’t think the Alpha culture was a unified nation state,’ Benny told the others. ‘I think it was more of a loose federation of interests. The translation matrix keeps favouring the word ‘association’ when talking about their decision-making process.’

There was no unified response to the threat. They didn’t have sufficient heavy-lift capacity to mount a deflection mission and the Omega faction destroyed their own to prevent any chance of its

capture. They had two whole Jaiwanese years to watch it coming, long enough to erode the soul but not long enough for any conceivable crash programme to succeed.

Naturally, some factions of the Alpha culture attacked the Omega faction, attempting to extract their revenge while they still could. A minority of talkers argued against this; that it was better that some spider culture survived, even in the ugly form of the Omega faction. They begged the Omega faction to at least take electronic records of wider spider society but the Omega faction refused.

They wanted a clean world, one swept free of the uncertainties that plagued the Alpha culture.

It wasn't until the final months of the Age of Desperation that serious bunker building began. They may not have had the decades of preparation enjoyed by the Omega faction but they were more numerous and, by definition, better able to improvise. Shelters were built everywhere and improvised out of everything. Cargo submarines were lashed together and sunk, installations like the rocket base were converted to new purposes and new techniques of hibernation were quickly developed. It was a mobilisation on a profound scale and yet it was all in vain.

The Omega faction had laid its plans carefully. Less than a Tenday before the impact, it launched a coordinated attack on all the survival bases.

Buttonmonster bombs and suicide squads were used against deep emplacements, conventional missiles and orbital harpoons against surface installations.

Simone sat up and interrupted at that point. 'Orbital harpoons?' she asked.

'They call them potential bombs,' said Benny, 'but from context it's obvious they mean KE weapons dropped from orbit. Is it significant?'

'I don't know yet,' said Simone. 'Can you port me the data?'

'Done,' said Benny. 'I dropped it in your letterbox before we left.'

'I'll have to look things up.' She slipped on a pair of multi-function Ray Bans and lay back down.

Benny paused for a moment to see if there was anything else but Simone was intent on the data she was reading off the inside of her Ray Bans.

'Legally, the position hasn't changed,' said Heidi. 'The Omega faction are still the legitimate sapient inhabitants of their planet of origin. It's still their right to determine the final status of the colony.' She glanced over to where Shawnee was playing volleyball. 'Even if we don't like them.'

'They're behind the site-robbing, said Chay. 'Aren't they? They know where all the sites are and which ones were most likely to

survive – They must do, it would be part of the original strategic plan. Now they're robbing them to eradicate any evidence of what they did.'

'But those were earned out by humans,' said Heidi. 'In fact given your little fight on the train we know they're carried out by the JLA. who didn't want us digging up spiders in the first place.'

'Maybe they've done a deal with the JLA,' said Benny. Cohabitation in the future in return for help now.'

'But the whole rationale of the Omega faction was intolerance,' said Heidi.

'And now they're going to do a deal with humans?'

'Intolerant to other spiders,' said Benny. 'Maybe humans don't count. Maybe they're just being pragmatic.'

'Maybe they've made a deal with the planetary government,' said Heidi.

'Which would explain why the Bureau of Antiquities won't let us near their stuff,' said Chay.

And I handed everything over to them,' said Benny. 'Oh, shit.'

'Not everything,' said Chay. 'You stole the data recorder.'

'And didn't tell us,' said Heidi.

'I didn't want to get you guys into trouble,' said Benny.

Chay and Heidi looked at each for a moment and then burst out laughing.

'It's not that funny,' said Benny. 'I wasn't sure you would approve and if General Lafayette found out... You can stop laughing now.'

'You can't really blame the Jaiwanese for stitching up a deal,' said Heidi after a moment to catch her breath. 'It pre-empts any finding by the observer team.'

'And it gives them something to hold over the Omega faction,' said Chay.

'They must know the truth will come out eventually,' said Benny.

'Why?' asked Heidi. 'They're already moving to ethnically cleanse the historical record.'

'And there's nothing left of the Alpha culture at all?' asked Heidi.

'Nothing living,' said Benny.

'That we know of,' said Simone.

'Is there something we should know, Captain?' asked Heidi.

'The Alpha culture was fragmented, diverse and just as fiendishly inventive as the Omega faction,' said Simone. 'So it stands to reason that at least one faction, let's call them the Gamma faction, would have twigged what the Omegas were up to and taken steps.'

'Yes,' said Heidi. 'Let's introduce a completely hypothetical variable. We have no evidence to suggest such a faction existed.'

'I think they'd probably want to stay hidden,' said Chay.

'But no evidence,' said Heidi.

‘Absence of evidence is not evidence of absence,’ said Benny.

Heidi checked to see that nobody below the rank of sergeant was watching and then stuck her tongue out at Benny.

‘Could you develop a set of probable locations for a Gamma base?’ Benny asked Simone.

‘Already on it,’ said Simone.

‘They’ll be watching us,’ said Chay.

‘Who?’ asked Benny.

‘Whoever it is that’s watching us,’ said Chay. ‘And we need to know who that is.’

‘Obviously,’ said Benny.

‘And who’s working with who,’ said Heidi.

‘Lola would know,’ said Benny.

‘But would she tell us?’ asked Chay.

‘She might,’ said Heidi. ‘If she were asked in the right way.’

They all looked at Simone, who was still communing with her Ray Bans.

‘Don’t look at me,’ said Simone. ‘I’m not her type. She likes pale, interesting girls, the ones with a tough exterior but a trembling doelike vulnerability underneath.’

Everyone looked at Benny.

‘What?’ said Benny.

Lola met her at the terminus.

‘Benny,’ she said and, taking both Benny’s hands in her own, kissed her on the cheek. Close to, she smelt of clean, dry skin and citrus. ‘You look stunning,’ she said.

Simone had told Benny to wear a freshly laundered set of work clothes: the canvas slacks with the reinforced pockets, open-neck collarless shirt and the boots with the acid-resistant soles. ‘That’ll float her boat,’ she said.

Lola was dressed casually in yellow silk trousers and an embroidered sleeveless top that was tailored long to lengthen her torso. Her long hair was wound up in a fine, yellow-and-red scarf.

‘So do you,’ said Benny.

There was an awkward pause.

‘What are you looking for?’ asked Lola.

‘Clothes,’ said Benny. ‘Advice on clothes, really.’

Lola laughed. ‘I gathered that much from your call – yes?’

‘I need something formal,’ said Benny. ‘Something dressy.’

Simone said that she wouldn’t be able to resist that, a double appeal to her vanity and a chance to play dress up with a real doll. At that point, Benny had told Simone to stop talking or she wasn’t going to go through with it.

Lola slipped her arm through Benny's. 'I know just the place,' she said.

Above the train station, Perky had created an atrium with a transparent floor laid over a spider's web of ornate wrought-iron girders. The floor was tinted a subtle blue-green and completely soundproof so that the trains would glide below the pedestrians like giant sea monsters. From the atrium proper, archaic-looking cage lifts whisked passengers up through a filigree of support struts to the upper floors. According to Lola, the lifts were powered entirely by the energy extracted from the heat differential between the peak's inner and outer skins.

Lola promised – after shopping, of course – dinner at the restaurant at the top of the peak. 'But first we have to find your something to wear.' She picked a discreet little boutique on the third mezzanine level that was expensive enough to have real people posing in the windows.

They knew Lola there and welcomed her with a kind of studied cheerfulness that put Benny's teeth on edge. Nothing was too good for their celebrity customer and her friend, and they were swept into a private viewing room. Tea and dainty bite-size things on small plates followed quickly.

The viewing room was designed to recreate a sunlit country bedroom – although presumably the country bedroom of a claustrophobic billionaire with a taste for chintz. Lola sat cross-legged on a king-size futon and bounced like a teenager while Benny tried on the outfits. Fortunately, there was a separate changing room into which attendants, hired for their maternal appearance, would deposit each new outfit.

Benny paraded each outfit up and down in front of Lola and then stopped to watch a high-resolution hologram recording so she could judge the effect for herself. It stopped feeling strange after the fifth repetition but it was surprisingly tiring.

Benny wanted to know why she couldn't use a holographic simulation to choose her outfit. 'That way I could sit down too,' she said and sat down for a breather.

Lola stroked her sleeve. 'What it feels like is as important as what it looks like – yes?' said Lola.

'Do you do this a lot?' asked Benny.

'This is my favourite shop,' said Lola.

'So you come here with your friends?' said Benny. 'Make an afternoon of it.'

'Sure,' said Lola and Benny knew suddenly that she was lying. There were no girly afternoons at the boutique because there were no

friends.

‘I don’t think it’s fair that I’m doing all the work,’ said Benny. ‘You should try something on.’

Lola actually squealed with delight and, leaping off the futon, ran for the changing room. Benny sighed and made herself comfortable with a pair of huge cushions. She was just about to ask if tea was available when she noticed that one of the attendants was standing by the bed with a silver tray – proffering tea and a plate of candied fruit. As she took the tea, Benny realised that she was in a shop, sitting on a bed in nothing but her underwear and feeling completely relaxed.

The Professor had been fond of an ancient Russian proverb – a man can get used to hanging if he hangs long enough.

Very true, Benny thought and bit into a candied fruit.

In her underwear, Lola didn’t look as strange as Benny had expected. The legs were disconcerting but not as odd as the breasts, which stuck out from her chest as firm and pert as a pair of silicone pears. When Lola wore a bra it was strictly for decoration.

Her skin was very smooth, though, without so much as freckle or a mole.

That can’t be natural, thought Benny. She caught herself wondering whether Lola felt as smooth as she looked.

Benny wasn’t used to flirting with women or – if she were honest – with men either. Back at the academy, there had been the usual crushes and hormone-fuelled passions that had provided hours of gossip in the dormitories. Someone had once told her that one of the younger girls had taken to writing her love poetry, but if so Benny never saw it. She had been squad leader at that time – maybe she’d just intimidated the poor thing. Then there’d been Simon Kyle... The few relationships she’d had since leaving the academy had generally started poorly, gone into decline and ended worse.

She’d made the mistake of trying to explain that to Simone.

‘You’re a romantic,’ said Simone. ‘They always get shafted.’

Lola emerged again in a firebrick-coloured cocktail dress with a high Jaiwanese collar at the front but a back that plunged all the way down to the bum cleavage.

‘What do you think?’ asked Lola.

‘Ask yourself, Lola,’ said Benny. ‘Do you really need publicity that bad?’

‘I’ve worn worse,’ said Lola. ‘When I was starting out, a designer made me a one-off dress entirely out of ribbons. I wore it to the grand opening of the Gallery of Contemporary Arts. The designer literally wrapped me up in a single ribbon, round and round and it was all held together by a single bow.’

Lola shrugged out of the backless dress, draped it casually over one

of the occasional tables and jumped onto the futon.

‘Caused a tremendous scandal,’ she said. ‘But that was the point, of course.’

She crawled up the bed until she was level with Benny and reached for the fruits. As she scooped up a handful, her bare arm brushed Benny’s shoulder.

‘What’s going on in the government?’ asked Benny suddenly.

Lola laughed. ‘Are you trying to pump me for information?’

‘Maybe,’ said Benny. ‘Just curious.’

‘You know the observer team is here,’ said Lola.

Benny nearly fell off the bed. ‘When did they arrive?’

‘Three days ago,’ said Lola. ‘You really didn’t know?’

‘They’re here to weigh up the fate of the entire population of this planet,’ said Benny. ‘We were expecting a bit of an announcement.’

‘I’ve got a dress for you to try on,’ Lola said and popped a candied fruit in her mouth.

‘Observer team,’ said Benny.

‘Dress first,’ said Lola. ‘You’re going to like it.’

Taste, for Benny, was something that she had always aspired to but had never been precisely sure how she was going to get. She had met enough rich people to know that money was no guarantee of taste but, when it came to clothes, it was a hell of a facilitator.

Lola had taste.

Gear was important in any profession, not just as tools of the trade but as badges of identity. Benny had always been aware that there was something more than utility when she walked around with a trowel in the back pocket of her jeans. The sensible, broad-brimmed hat, the brush, the preservation bags stuffed into her jacket anchored her identity. Look at me, I’m an archaeologist – that’s why I’m weighed down by all this stuff.

The dress was sheer and clingy, in a good way, and made Benny feel like she had an identity that wasn’t reliant on several kilograms of scrap metal.

It was an extremely odd feeling and Benny wasn’t sure she liked it.

‘You have to get that,’ said Lola.

‘I don’t know,’ said Benny. The holograms all showed a strange, tall woman in an elegant dress – someone who knew her Muvrad from her Shangrila and went to the openings of things.

‘Let me buy it for you,’ said Lola.

‘It’s hideously expensive,’ said Benny. ‘And I can cover it.’ Although that would involve raiding the weapons procurement budget.

‘As a thank you gift,’ said Lola.

‘For what?’ asked Benny.

‘For having me along,’ said Lola. ‘For nearly getting me killed, for

the story of the century.'

'How can I refuse?' said Benny.

From the top of the Spire you could see forever.

Lola had got them the best table and the view was important because it was the kind of restaurant that served food so sophisticated that Benny couldn't tell what she was eating. Lola noticed her pushing something yellow and spiky around her plate and put her hand over Benny's.

'I can order a sandwich,' she said.

'I'm just not hungry,' said Benny.

Lola poured her another glass of wine and leaned forward. 'I don't like the food much,' she said softly. 'I come here for the ambience.'

'It's funny,' said Benny. 'This is the only planet I've been on where the term machine-made has a positive connotation.'

'You mean Pinky and Perky?'

'I know where they are,' Benny said and told Lola about the twin warehouses by the tracks; about the shipshape observation deck and the ormolu clock, but not about the vomiting and the passing out.

Lola's eyes were bright. 'I thought they were a myth,' she said. 'Something they'd made up to make Jaiwanese history more interesting.'

'Let's go to your place,' said Benny suddenly.

Lola looked startled and gave Benny a brief worried frown before grinning.

A big goofy grin that was nothing like the range of professionally calculated expressions Lola normally wore. It was a lopsided, hayseed grin for a girl growing up right amongst fields of corn and agricultural robotics. Benny found it irresistible.

Lola wore the grin all the way down in the lift and across the hall and into her apartment. It was there when she fixed them both a brandy and it only faded, just a bit, when she stood nervously side by side with Benny in front of the window.

'So,' asked Lola carefully. 'Do you want me to make up the couch again?'

'And?' asked Heidi late the next day once Benny was back in Lalaland. They met in Heidi's office because there was less chance of Shawnee barging in.

'She was more talkative the next day,' said Benny.

'Benny,' said Heidi. 'You can't just leave it like that.'

'If you think you're getting an after-action report,' said Benny, 'you can kiss my...' She looked at Chay and Simone. Chay raised an eyebrow.

'Did you leave your boots on?' asked Simone.

Benny felt a surge of intense anger that almost left her panting. It must have shown on her face because Chay and Simone stopped grinning. Benny looked away embarrassed.

‘The government and the Omega faction,’ said Heidi – all business. ‘Is there a deal?’

‘Oh, yeah,’ said Benny. ‘Practically an open secret in government circles. Our friend Paramita is point man for the government and the Venerable Bede is liaison for the spiders – which means Paramita was lying to my face.’

‘So, no change there, then,’ said Chay.

‘We have to pass this up to the general,’ said Heidi.

‘Who didn’t tell us that the observer team had arrived,’ said Benny.

Heidi pursed her lips – she obviously didn’t like the sound of that.

To the average grunt in a foxhole, a general is a godlike, aloof being who makes decisions in a rarefied atmosphere far way from the smoke and the noise and the blood. Benny, whose father had been an admiral, knew that they had to play the same stupid games as everyone else – only the stakes were usually higher.

Benny’s PDA pinged but she ignored it.

‘If we’re being sidelined,’ said Simone, ‘then it’s likely that the general is too. If she didn’t tell us then it’s because she doesn’t want any direct connections between her office and us.’

‘More direct than the chain of the command?’ asked Benny.

‘Officially we’re still detached,’ said Heidi. ‘That gives us some freedom of movement.’

Chay’s PDA pinged, then Simone’s and finally Heidi’s played a happy little jingle that had once been used to advertise dental floss.

Then Benny’s PDA played the opening bars of the final movement of Beethoven’s ninth symphony. Benny hadn’t even heard of Beethoven until the night before. She picked up.

‘Lola,’ she said.

‘Benny,’ said Lola. ‘Check your news engine – call me back when you have.’

Benny switched over to her news engine which, following her preset criteria, immediately showed her a summary of a news item. She showed it to the others, who held up their PDAs to show they already had it – that’s what the beeping had been about.

Pressing ‘follow up’ got her footage of a statement by the observer team in which they stated that they had reached a preliminary finding that, although the hibernation clause was valid, the Laughing People had agreed to work towards a mutual solution with the Jaiwanese human population. The statement concluded with the pious hope that this spirit of cooperation would stand as a beacon to other species in other star systems.

‘Why am I deeply suspicious of this?’ asked Simone.

‘Because you’re anticipating the fine print,’ Chay said and shunted a second news update to their PDAs. This one was a quiet announcement by the Jaiwanese government that a new permit regime was to be introduced for archaeological projects on the planet and that no new digs should be started until the system had bedded down.

‘Looks like a quid pro quo,’ said Heidi. ‘Our friends the Omega faction –’

‘Way of Life That Works faction,’ said Simone.

‘I prefer Omega,’ said Heidi. ‘They’ve done a deal: support our cultural genocide and you get to stay on the planet.’

‘They get the swamps, humans get the dry land,’ said Simone. ‘It’s a good deal. Perhaps we should just accept it.’

‘No,’ said Benny. ‘We can’t do that, it wouldn’t be right.’

‘Why not?’ said Simone.

‘Because it’s not right to allow the Omega faction to just wipe out the memory of their opponents,’ said Benny.

‘Even if they won?’ asked Simone.

‘Especially because they won,’ said Benny.

‘But it’s their history,’ said Simone.

‘No, it isn’t. It’s our history now,’ said Benny. ‘Because we’re all archaeologists and that makes it our history – okay?’

‘Do you want a war?’ asked Simone. ‘Because that’s where that chain of thinking ends.’

‘It doesn’t need a war,’ said Benny. ‘It just needs a chat.’

‘Talk to the Omega faction?’ asked Heidi.

‘I’ll take a quick trip down to their base,’ said Benny. ‘See how they’re getting on. Cup of tea, frank exchange of views...’

‘What makes you think they’ll see you?’ asked Heidi.

‘I’m the one that woke them up,’ said Benny. ‘That’s got to be worth a hot beverage at the very least.’

In the end, Benny went with Shawnee; it seemed less provocative. They took one of the old ATVs, which, while lacking the low-slung thrill ride of Chay’s Sabre, did a fair clip down Highway One. They veered off to follow the railway across the Nuk Rorng Sound and stopped at Kondeeo for a pit stop at the local Teahouse franchise. Then they took the bridge across to the mainland and the kwumtree stands.

An automated sentry box had been installed on the far side of the bridge.

Fresh concrete gleamed amongst the roots where the box’s foundations had been anchored into the swamp. The top sprouted a

medusa-head camera, which tracked the ATV as it passed. A sign by the side of the road read, with typical Jaiwanese attention to nuance, 'CAUTION: CULTURALLY DISPUTED AREA AHEAD.'

They turned off at the usual place and headed into the slough. It wasn't quite the old route to the dig but it was close enough to be disconcerting.

They skirted south of King Froggie's Ridge, as it had become known, and headed across the disco headlands and into the kwumtree swamps that marked the beginning of the lakelands proper. The perimeter of the spider complex was visible a kilometre away, a dark grey line that cut sharply into the flow of the slough.

Close up, it was a wall of dirty concrete, sheer on the exterior side and a gentle slope on the interior. Sensor poles and floodlights were mounted every ten metres along its length. Benny turned the ATV parallel and looked for an entrance. They found one three kilometres further south, flanked by two tower-mounted miniguns – it was all very welcoming. Benny approached carefully and tried to think innocuous thoughts.

A young man emerged from behind one of the towers and waved. He was wearing a sleeveless T-shirt, white shorts and mirrorshades.

'Hello,' he called. 'This area's off-limits. You can't come in.'

Bernice stood up so he, and the sensors she knew were trained on her, could get a clear look. 'I'm Bernice Summerfield,' she said. 'I'm here to see Woke Up One Morning Feeling Fine.' Who Benny still thought of as the Venerable Bede, just as they were spiders not Laughing People, and the Omega faction not the Way of Life That Works. With a name like that she should have known that they weren't to be trusted; it was like the Golden Harmony society on Calliastra, genocide with a cheerful grin.

The young man chewed his lip for a moment and then shrugged. 'Tie up here,' he said, 'and we'll see what the spiders say.'

Benny drove the ATV closer and Shawnee jumped onto the wall to make them fast.

'You got any beers?' he asked.

'Maybe,' said Shawnee. 'Arrange a run for you, nah so?'

'You local?' the man asked Shawnee.

'Kontoolay,' said Shawnee. 'You?'

'North,' said the man. 'Sleeping shrimp.'

'Dry lander, nah so?'

'Wet foot,' the man said but smiled to show that he didn't mean it. 'I heard your village gone float away, nah so.'

'Just fishing,' said Shawnee.

Benny wondered what that was about.

The young man's communicator buzzed in his ear. 'They're sending

someone to collect you,' he said and waved in the direction of the swamp.

Benny followed his hand and saw, in the distance, an ordinary-looking fibreglass skiff skipping across the water towards them. Benny wondered how it was travelling without an impeller until she noticed the two thin V-wakes ahead of the bow. It was being hand-pulled or, more precisely, tentacle-pulled by a couple of spiders.

The Venerable Bede met them in a hexagonal pool deep enough for spider comfort but with steps cut in the sides that allowed Benny and Shawnee to sit comfortably with their feet dangling in the cool water. It looked, to Benny, like a miniature version of the dog pit at Pilar's site in the desert – except for the sharp edges. She wondered idly whether it doubled as a space for gladiatorial combat and then really wished she hadn't.

The Venerable Bede turned up with two equally aged-looking spider friends. This was a classic negotiating tactic right out of *The Surly Native's Handbook*, designed to put, presumably, xenophobic humans at a disadvantage. However, Benny had made a point of reviewing the suit-camera logs from the undersea base and she probably knew the wrinkle patterns on the Venerable Bede's hide better than it did.

The Professor had been co-editor of the 2540 edition of *The Surly Native's Handbook* and as a result Benny had read it twice.

Benny faced the Venerable Bede and pulled her arms into her chest in the closest approximation of a spider greeting a human could make. 'Woke Up One Morning Feeling Fine,' she said.

The Venerable Bede pulled in its own mouthparts and forward limbs and made a high-pressure gargling sound. The translation was relayed from her PDA through her earpiece. 'Welcome, Director Bernice Summerfield. Fools Rush In.'

'Fools rush in?' said Benny. 'Query.'

'Clarification,' said the Venerable Bede. 'Laughing People name for Director Bernice Summerfield.'

'I see,' said Benny.

'Query,' said the Venerable Bede. 'Arrhythmic squeaking noise made by your servitor – meaning?'

'Giggling,' said Benny, taking refuge in honesty. 'Expression of amusement.'

'Query,' said the Venerable Bede. 'Purpose of visit.'

'Request,' said Benny. 'Access to Laughing People historical sites.'

'Statement,' said the Venerable Bede. 'Access likely to be granted at some point in the future.'

'Agreed,' said Benny. 'Impatience, desire for information.'

'Fools Rush In,' said the Venerable Bede.

Busted, thought Benny.

A fighter swam into the pool and positioned itself in front of Benny and Shawnee.

‘Invitation,’ said the Venerable Bede. To view our home installation.’

Gingerly, Benny climbed on the back of the fighter; it was like straddling a wet leather couch. Shawnee got on behind her and nervously clutched at Benny’s waist.

‘Hang on,’ said Benny. ‘They’re probably going to make this exciting.’

Goddess, but the spiders were magnificent in the water, as supple and as graceful as the dolphins of old Earth. For a moment, Benny forgot why she was there and lost herself in the sensation.

‘Information,’ said her PDA. Benny looked over to find the Venerable Bede keeping pace with them on their left. ‘New accommodation area.’

They were in the Omega faction style, concrete terraces built up like the side of a ziggurat from a channel dredged out of the riverbank. Benny could see spiders everywhere: she estimated about a thousand individuals,’ she couldn’t tell what percentage were fighters.

Instant army, she thought. Just add water.

She’d been hoping that the spiders had some kind of taboo against allowing all of a spawn to survive hatching, but no such luck.

They swung past three more artificial channels, each one as grey and as linear as the last, each one full of spiders. She knew she was being managed and spun but she didn’t think the spiders were fast enough to be moving from one channel to the next without her noticing.

At least three thousand, then.

‘Query,’ said the Venerable Bede. ‘Why study the past when the future is being created around you?’

‘Why, indeed,’ said Benny. Let’s not be provocative, she thought. Because suddenly disappearing can be hazardous to your health. It was time to roll over with her paws in the air – or more appropriately curl up with her limbs retracted. ‘Perhaps it is more appropriate where there is no future to be seen.’

Venerable Bede did not reply at first and Benny had started berating herself for being obtuse when the spider spoke again. ‘Query – the future is more important than the past?’

‘The future,’ said Benny, ‘is always more important.’ Because you can’t do archaeology if you’ve been eaten by a spider.

The Venerable Bede dropped them off back at the gate where they’d left the ATV.

Shawnee went to speak but Benny shook her head and gestured at

the guard towers. Shawnee sensibly waited until they were a thousand metres behind.

‘What now?’ she asked.

‘Now,’ said Benny, ‘we go see your father.’

The floating village had moved although Shawnee’s father refused to say why.

‘It is a floating village, nah so?’ he said. ‘Shame not to move it about from time to time.’

He served her tea and flatbread wraps on the flying bridge of the family boat. The village had moved out of the lakes and down into the Champelmein lagoon, which ran down the western coast of the peninsula. Thousands of tiny islands were scattered like grain across the lagoon, forming a pinprick archipelago which coalesced into the larger islands at Kondeeo. The position would allow the village to flee, Benny noted, up the coast and along the line of the Pinky and Perky axis if anything bad happened. It also put them much further away from the spider base. But not far enough for Benny’s liking.

‘I have heard,’ said Benny, ‘that it’s very pleasant further north. They tell me that the spindly killer fish have got so bold that they’re practically jumping onto the decks of passing ships.’

‘Interesting,’ said Shawnee’s father. ‘We couldn’t let such boldness go unpunished, could we, nah so?’

‘Absolutely,’ said Benny. ‘One doesn’t want to find oneself holding half a mermaid – does one?’

‘We have a saying,’ said Shawnee’s father. ‘It is the quiet man who catches the spindly killer fish.’

‘Really?’ asked Benny.

‘No,’ said Shawnee’s father. ‘But it’s always good advice.’

‘I have a hankering,’ said Benny, ‘to visit my old site.’

‘Nostalgia is a terrible thing,’ said Shawnee’s father.

‘It is, isn’t it? And yet...’

‘You have a vehicle,’ said Shawnee’s father. ‘Nah so?’

‘Yes,’ said Benny. ‘But I was hoping to avoid the tourists.’

‘Does my daughter wish to travel with you?’

‘I thought it would be nice if my apprentice spent a few days with her family,’ said Benny.

‘We’re always happy to see her,’ said Shawnee’s father.

With the deal struck, Benny put in an encrypted call to Heidi.

The next morning found her pulling up alone in the old ATV park. It hadn’t been long enough for even aggressively fecund plants of the peninsula to do much more than chip away at the edge of the campsite but already, in Benny’s mind, the site was vanishing.

There was no point making work for herself, so Benny inflated her

pop tent next to the faded rectangle that marked the extent of King Froggie's burial site. She laid out her CAR units in a square grid to the north of the original trench and noted their positions in her log. Simone had provided her with the latest in penetrating radar equipment, a flying saucer the size of a dinner plate, designed to autonomously scan a designated area down to a depth of 15 metres. Following instructions, Benny tossed it towards the centre of the site and watched as it floated around in a vaguely zigzag pattern.

Benny unshipped a square-bladed spade and started to strip the turf off her trench. It was hard work in the hot sun but she'd learnt long ago to enjoy the sweat and the satisfaction of getting a job done.

And it made it so much easier not to think about things for a while.

She finished stripping the turf just before local midday and crawled into her tent for a five-hour nornbai with the flaps open and the air conditioning whirring flat out. She didn't dream at all.

It was still boiling when she woke up but the regiment had left the rainwater butt in place when they'd packed up the site. She stuck her head under the spigot and let the water wake her up. Late lunch was a packet of chilled potfish steak sandwiches and a self-cooling beer.

It was Chay's contention that true civilisation could only truly be said to exist once the self-cooling beer tin had been invented.

Benny put on a wide-brimmed sun hat and stood at the edge of her new trench. The freshly exposed earth was already beginning to turn a sandy colour in the sun but the bleach marks clearly showed what looked like an edge describing a shallow curve across the middle. She slipped her trowel from the back pocket of her jeans and, kneeling, started to scrape away at the soil. Every so often, the deep radar saucer would whirl past following whatever strange directives Simone had programmed into it.

Simone had said that in order to be sure they needed 16 hours of uninterrupted scanning – they got 13.

'Director Summerfield,' said a voice. Benny recognised it.

'Agent Paramita,' she said. 'Have you come to help?'

'In a manner of speaking,' said Agent Paramita.

'You mean,' said Benny, 'not really here to help at all.'

'Director Summerfield,' said Agent Paramita. 'Could you please stop digging.'

Benny did consider saying, 'Make me,' but there was too much of a chance that Agent Paramita might just do that. She lowered her head and blew some dust off a non-existent find, considered it for a moment and stood up.

'You're not really as clever as you think you are,' said Agent Paramita. A small group of people emerged in skirmish order from the woods around the site. They were lightly armed, dressed in dark suits

and wore the sunglasses that had been de rigueur for security agents for the last six hundred years.

Benny had to stop herself laughing out loud – Heidi had made contingency plans for much worse than this.

‘Do you think you’ve brought enough back up?’ asked Benny.

‘We’ve learnt not to underestimate you,’ said Agent Paramita.

‘You’re sure about that?’ asked Benny.

‘Oh, we know that you’re just here as a distraction, Director Summerfield,’ said Agent Paramita. ‘We know that the bulk of your forces are heading for the northern city sites and our own archaeologists have been over your own site reports about this place.’

‘Your own archaeologists?’

‘We learn fast,’ said Agent Paramita.

‘So, there really are sites in the arctic,’ said Benny ‘Simone will be pleased.’

To his credit, Agent Paramita didn’t blurt out something lame like, ‘You mean this is a double bluff, no it cannot be correct.’ But the look on his face as he put it all together was priceless.

‘Heidi,’ said Benny into her PDA. ‘Plan B.’

Agent Paramita gave her a sharp look and then relaxed. ‘You don’t have any assets within a thousand kilometres of here,’ he said.

‘Agent Paramita,’ said Benny. ‘I’m insulted. I’m an archaeologist and a historian – it’s not that kind of plan at all.’

‘No?’ asked Agent Paramita.

‘No,’ said Benny. ‘Heidi’s merely going to make a formal objection to your position with the standards committee of the Jaiwanese congress. We’re going to allege that you’ve been taking bribes and appointing members of your family to well-paid jobs in the Bureau of Antiquity.’

‘I don’t have any close family,’ said Agent Paramita.

‘And, you know, that might have posed a problem, so we invented some,’ said Benny. ‘We have some military-grade hackers in the regiment and you’d be amazed what kind of a back story they can create in a relatively short time. Did you know you had two daughters by two different women in Crystal Peak and that you’re behind in your maintenance payments to both of them.’

Benny put her hand on her hip and glared at him.

‘Really,’ she said. ‘Is that any way for a government official to behave?’ A couple of Agent Paramita’s people were grinning behind his back. ‘And you got your girlfriend’s mother a job in the Bureau – which is just despicable.’

‘My colleagues will know better,’ said Agent Paramita.

‘Your colleagues,’ said Benny, ‘will have their own problems – we’ve targeted your whole department.’

Benny saw that she'd gone one bluff too far. Paramita was no longer buying.

'Is any of this true?' asked Agent Paramita.

'Nah,' said Benny. 'I was just stalling.'

The pressure wave from the descending Fulcrums almost knocked them down. The pilots finally got a chance to carry out a genuine teng combat landing – they must have thought that Christmas had come round at last.

Agent Paramita was white-faced with shock – he stared at Benny.

'You have my file,' yelled Benny over the noise of the descending transports. 'You know my father was considered one of the finest strategists of his generation and yet you never, ever, seem to ask yourself just what did he talk about over the breakfast table.'

Agent Paramita continued to stare at her – obviously, clever banter was just wasted on some people.

Diggers in full combat armour were bouncing out of the doors before the Fulcrums had settled on their landing pads. At least a company's worth disembarked and quickly dispersed to secure the site. Heidi obviously subscribed to the overwhelming-force school of military tactics.

And at least Agent Paramita was a professional. As soon as the first wave of diggers had disembarked, he put his hands on his head – behind him, his people followed suit.

One of the heavily armoured soldiers gave her a salute but it wasn't until Benny caught sight of the stripes that she realised it was Chay. Heidi came down the ramp with her helmet folded back to show her face – a senior officer always did that where possible – and encourage the troops. Benny recognised Simone even with her helmet hiding her face: there was just something distinctive about the way she walked.

'Are they there?' Benny asked.

Simone's helmet folded down and back, revealing a big grin. 'Right where I said they'd be,' she said. 'Applause and medals, please.'

'Is there a medal for smugness beyond the call of duty?' asked Heidi.

'Ask Sergeant Chay 'Oh, what a big chest I have' Lopeti,' said Simone.

'He's got most of them.'

'Let's get on with it,' said Benny. The banter was making her nervous.

Agent Paramita and his people had their wrists bound with plastic tags and were led away to a holding area. Once they were out of sight, a squad of jiggers unloaded a pair of bangalore well torpedoes and, directed by Simone, drove them vertically into the ground.

It had been Simone that suggested that the elements of the Alpha

culture most likely to survive would be those that had taken steps to hide from the Omega faction.

So, she asked herself what she would do in their flippers and her answer was to hide within the contours of the context horizon. 'It's a question of understanding what it is your enemy understands,' Simone had told them.

'And then doing something that lies outside of their context horizon.' When everyone gave her a blank look she shook her head and said, 'You do something they don't expect you to do. In fact, you do something it would never occur to them you might do in a million years.'

Like building lots of self contained hibernation units and burying them in ones and twos in culturally unlikely places – like underneath a particularly important racial shrine, as with King Froggie's burial mound. It had taken the latest in deep-penetrating ground radar to find two such hibernation units and so, Simone reasoned, if Benny and the Professor had dug over the site for six months and not found them, neither had the Omega faction.

One of the diggers yelled, 'Fire in the hole!' and the bangalore well torpedoes exploded. The well torpedoes were directional explosives – like the ground breakers Benny had used in the desert – only optimised for military operations, specifically breaking into tunnels from above. A precise sequence of explosions blew out twin columns of earth and pulverised rock, leaving two large spoil heaps on either side of the new hole. Benny peered over the edge of one – it really was as smooth and as neat as a well.

'Scraping teams,' yelled Chay. 'Go.'

Two teams of diggers stripped off their armour and prepared to descend, but Benny managed to get into one of the shafts first. They'd had to leave some earth to shield the artefacts from the explosives. It was the minimum Benny thought they could get away with, but it was still two metres thick.

Benny realised once she reached the bottom that it was going to be much more shovelling than scraping and promptly wished she'd let the diggers get there first.

Sighing, she grabbed a shovel and started digging.

She was almost through to the archaeology when the battle started.

'Benny,' yelled Chay from the top of the well. 'We have company.'

She stopped work and heard a string of explosions, the last couple big enough to be felt through the soles of her feet. She'd hoped that it wouldn't come to this.

'Ten minutes,' she called back up.

She expected him to yell that she had five minutes. When he didn't,

Benny realised that the situation was really desperate. She uncovered the capsule three minutes later and ran her hand over its smooth, rounded and undeniably Alpha culture surface.

‘Let’s get it up as fast as possible,’ she said.

There were two separate capsules and by the time Benny rode up with the second the explosions above were pretty much continuous.

‘Stay down,’ said Chay. ‘It’s getting hot up here.’

The spoil heap at the top of the hole had been turned into an old-fashioned earthwork. Chay had his helmet closed up and was keeping low,’ Benny took her cue from him and stayed lower. Diggers in armour grabbed the hibernation capsules and headed off at the double.

‘Who is it?’ she asked.

‘The instant army,’ said Chay. ‘In battalion strength.’

Benny sank even lower as something with a heavy calibre opened up on her position and sent clods of earth fountaining off the top of the earthwork. .

‘How many capsules did the other team find?’ she asked.

‘Two,’ said Chay.

‘Did they have a heartbeat?’

‘The medics were pretty certain that both were revivable.’

A metre-length of a disco tree’s trunk thudded into the soft earth near Benny’s feet and shattered – splinters stung her legs and bounced off her jacket.

‘And we’re still hanging around here because...?’ asked Benny.

‘Don’t worry,’ said Chay. ‘We’re just waiting for a bit of close support.’

The sky to the west turned orange and a wave of heat rolled over Benny.

‘Here it is now,’ said Chay. ‘When I say ‘go’, run for the nearest Fulcrum.’

‘Okay,’ said Benny.

‘Go,’ said Chay.

Benny went. Around her she saw broken earth and shattered trees but ahead was a Fulcrum with its side door open. From behind she heard the electric stutter of a blaster rifle as Chay laid down covering fire. Another wave of heat rolled over her back.

Then she was at the Fulcrum and gauntleted hands pulled her on board.

The door sealed behind her and Benny was pressed into the decking by a two-g lift off.

‘Is everybody away?’ she heard someone say.

‘Just the rearguard left, ma’am,’ someone answered.

Benny looked over to see Heidi sitting across the cabin, flanked by

her ADC and a captain, whose name Benny could never remember. Modern military doctrine was currently opposed to field commanders being reliant on real-time data feeds so she had her helmet down – her staff was supposed to keep track of the details. A digger vacated their seat so that Benny could sit in the command group. This close, there was bleedover from the communications grid and Benny could hear Simone yelling at Chay to board the last Fulcrum.

‘I’m on,’ she heard Chay say. ‘Go, go, g–’

He was cut off by static.

‘Brace,’ said the captain.

The Fulcrum lurched. Benny felt it stagger and then recover as the pilot fed power to the lift engines.

‘Tactical nuke,’ said the ADC. ‘Ten kilotons – ground burst.’

‘Just a baby,’ said Heidi. ‘The rearguard?’

‘They were still on the ground, ma’am,’ said the captain.

And that was the moment when Heidi died. Her body went on to a long and distinguished career, but the real Heidi – Benny’s Heidi – was gone.

11: Everybody Loves a Hero

Plan C, thought Benny.

The capsule had dropped her in the middle of a ploughed field.

Staggering to her feet, she could see an electronic field boundary to the west. At least she hoped it was the west because otherwise she'd been unconscious for a very long while or Jaiwan's rotation had reversed.

There was a certain amount of pain: strips of bruising where the harness had bitten into her skin when the chute had opened, a reminder as to why you weren't supposed to jump in your street clothes.

She checked her PDA for a location; she'd disabled the GPS transmit function but her unit had enough inertial capability to track her position to within a thousand metres. The Pinky and Perky corridor was to the east so Benny limped off to wait by the highway for Shawnee and Lola. She found a sheltered spot and stuck a ragged piece of red plastic to the guard fence – the agreed signal.

Benny took cover amongst a clump of bushes and waited, trying not to think much about anything.

Fortunately, they were early but the sight of Chay's Sabre pulling over hurt worse than Benny had expected. She stepped out onto the hard shoulder and waved, keeping her face carefully neutral.

Shawnee rolled out of the Sabre before the doors were halfway up and ran over to hug her. Lola unfolded from the driver's side and, after a moment of nervous hesitation, brushed Benny's lips with hers.

'We don't have much time,' said Benny.

Benny found the knapsack just where Heidi had said it would be – wedged under the front seat. Inside were half a dozen thumbloc plastic bags full of mini-ordnance the size and shape of marbles. Benny stuffed those bags full of blue and green grenades into her jacket pockets but carefully stowed the red ones back under the seat. Heidi had warned her against using those.

'Ready?' she asked.

'Ready,' said Shawnee.

'What was the question again?' asked Lola, and Shawnee laughed.

Benny put the Sabre on auto and told it to make best speed for the southern starport. The Sabre pulled out onto the highway and smoothly accelerated up to two hundred kph. It drifted into the fast lane and Benny felt a couple of false starts as the Sabre's computer negotiated with the centralised road management system about what was a safe speed. The Sabre must have won because thirty seconds later they were doing three hundred kph south west.

‘So what happened?’ asked Lola.

‘Is Chay all right?’ asked Shawnee.

‘We recovered five intact hibernation capsules but then the spiders threw a nuke at us,’ said Benny.

‘That made the news,’ said Lola. ‘Even the government got spooked by that.’

‘We couldn’t risk taking them to Lalaland,’ said Benny. ‘But Heidi already had a secret fallback position prepared.’

‘So, where are they now?’ asked Lola.

Benny fought down a surge of disappointment. ‘It’s better if neither of you know,’ she said. ‘Puts you in less danger. But we knew we were going to have to get off-world so yours truly got to jump out of a Fulcrum at six thousand metres.’

It had been like stepping out onto the ice cap again and then falling into the dark freezing sky. On any other day it might have been fun.

‘If we can get to the starport at Jop, I can hire one of the free traders to get our sleeping spiders off-planet,’ said Benny.

‘Why can’t the general do it?’ asked Shawnee.

‘The observation team,’ said Lola. ‘They’ve ordered Lafayette to stand down all human military forces. They’re not happy with her at all.’

‘I bet they weren’t happy about the tactical nuke either,’ said Benny.

‘Once a nuke was used, they demanded the deployment of nuclear dampeners,’ said Lola. ‘The spiders don’t know about hyperspace so I doubt they knew about dampeners.’

‘I bet it came as a nasty shock,’ said Benny. ‘I’m surprised none of their allies mentioned it.’

‘It’s not the sort of thing that comes up in casual conversation,’ said Lola.

Dampeners created a field that inhibited chain reactions, making nuclear weapons rare on the battlefield – one of the reasons why modern wars had become such bloody and protracted affairs. ‘They probably felt they needed to calm the situation down.’

‘Except that the spiders and the militia are in place,’ said Benny. ‘And we’re not.’

‘I’m not sure who you think “we” are,’ said Lola. ‘The spiders, the government and the observation team have come to an agreement, it’s a done deal. ‘We’ are just one rogue military unit and a mad archaeologist.’

‘Hey,’ said Shawnee.

‘And the mad archaeologist’s apprentice,’ said Lola. ‘Not very formidable – nah so?’

‘And a famous yet fearless girl reporter,’ said Benny.

‘And me,’ said Lola. ‘For my sins.’

They drove on in silence for a while.

‘Chay’s okay?’ asked Shawnee suddenly.

Benny kept her eyes on the road. ‘Yeah, fine,’ said Benny. ‘Don’t worry about him.’

They crossed the last causeway at two hundred kph with the setting sun behind them. Ahead, Benny could see the low rise of Bee-a-gor Island, Jop town and, beyond them, a ragged contrail that marked the launch of the evening shuttle.

And that’s when it all went to hell.

Benny was wearing a pair of Chay’s Ray Bans and had the magnification maxed out so she saw the roadblock first. A line of service vehicles stretched across the road with a couple of police cruisers parked either side. Traffic was light but, judging by the long column of waiting vehicles, the search was quite thorough.

‘Damn,’ said Benny. ‘There’s a roadblock.’ She’d been expecting one eventually but she’d assumed that it would be at the perimeter of the starport not at the edge of Jop town. Not before they got to the warehouse district.

‘I can get us through,’ said Lola. ‘Just trust me.’

The Sabre began to slow down as the police traffic advisory ordered it to cut power. Benny used the Ray Bans to study people manning the road block.

It was mostly militia, eager-looking young men and women in fixed camouflage battledress and yellow-and-black armbands. There were a couple of bored-looking cops in riot gear and a man who Benny recognised entirely by his posture. Agent Sunan Paramita, in his smart suit, looking like he was expecting someone to turn up soon.

Three guesses as to who, thought Benny.

A pair of militia officers emerged from behind a van. Benny groaned out loud – they’d both had a suitably military buzzcut, but they’d always be Mr and Mrs Bad Haircut to her. How much worse was this going to get?

Benny put her hand on the manual controls.

‘Please don’t do that,’ said Lola.

‘Benny,’ yelled Shawnee.

Benny glanced over. Lola was holding a serviceable little blaster and aiming it at Benny’s chest.

‘Just keep it on autodrive,’ said Lola.

‘Where the hell did you get that?’ asked Benny.

‘I borrowed it from a friend,’ said Lola.

‘It doesn’t go with the outfit,’ said Benny.

‘Neither would a hole in your chest,’ said Lola.

Benny couldn’t think of a decent comeback to that.

The Sabre, still on autodrive, meekly joined the queue of waiting vehicles.

‘So, you’re working with the government,’ said Benny.

‘With the legitimate government of my planet – yes,’ said Lola.

‘And genocidal spiders,’ said Benny.

‘Because we humans have such a good track record in that area,’ said Lola.

‘How long have you been working with them?’

‘Last couple of weeks,’ said Lola.

‘So, it has nothing to do with us?’ asked Benny.

‘No,’ said Lola. ‘And I was hoping you wouldn’t get involved.’

Up ahead, a vehicle was allowed through the checkpoint and the Sabre moved smoothly forward one vehicle length. Benny counted six vehicles between them and the checkpoint.

Shawnee said something in dialect; Benny didn’t understand the words but she got the tone.

‘You stay out of this,’ said Lola sharply. ‘Your father should be ashamed of himself – nah so?’

They moved forward again – five more vehicles to go. If they’d been proper professionals, the militia would have had guards patrolling up and down the length of the queue – sniffing for anything suspicious. As it was, Lola was probably going to have to wait until they were right on top of the barrier before her friends could help her.

Already Lola was tapping her foot – impatient.

‘They’re not very well organised,’ said Benny. ‘Are they?’

Lola’s eyes flickered towards the roadblock but not for long enough.

‘Heidi would have had us out of the car and assuming the position five minutes ago,’ said Benny. ‘Let’s be honest, you’re crap at this military stuff and the Omega faction is going to have you for breakfast.’

‘As opposed to what – nah so?’ said Lola. ‘Assisted deportation under the watchful eye of the all-benevolent military?’ She leaned closer. ‘If you feel so strongly about it then why don’t you join up? You told me all about it remember, the false discharge papers, the fake qualifications. If you’re so keen to fight then go and fight.’

‘You freak,’ said Benny. ‘You lying, misshapen, ugly piece of shit.’

Lola’s face twisted in an ugly way and for a moment Benny was terrified that she was going to get shot.

The Sabre moved on another car length.

Lola got herself under control. She wiped tear streaks with her free hand.

Benny saw her chance and lunged for the blaster, grabbing it with both hands and wrenching Lola’s arm upwards. There was a crack and a pulse of heat that crisped the hair on Benny’s forearms. Light poured

in through a hole melted in the roof. Lola was much stronger then she looked: she brought her arm down again but Shawnee grabbed her around the neck and pulled.

Another shot, another heat pulse, as the blaster melted a hole in the windscreen and the back of the van ahead. Benny tried smashing Lola's hand against the dashboard but that just put a second shot into the van. There was a muffled crump and rolling wave of heat as something in the van exploded.

'Sabre,' called Benny 'Override, blow through.'

The Sabre shot sideways and then accelerated down the oncoming lane towards the roadblock. Benny squeezed Lola's hand and was rewarded with two more blaster shots through the windscreen. Militia and police scattered as bits were blown off the middle-utility vehicle. Then Lola realised what Benny was doing and dropped the blaster.

Benny yelped as Lola punched her in the breast and so drove her elbow into the other woman's face. Shawnee screamed and Benny looked up to see that they were rushing headlong at the centre of the roadblock.

'Trust the Sabre,' Heidi had told her. 'And it won't let you down.'

One of the vehicles in the roadblock was belching smoke. It looked like it was used to resurface the highway and there was no way they were going to survive the impact. The militia troops hadn't bothered to raise their rifles – they didn't think Benny would make it either.

Then the seat slammed into Benny's back and, with a whine of customised AG jacks, she flew over the roadblock and bumped to a landing on the other side. It stood to reason that Chay would have his ride customised. 'Jacked to bunnyhop,' squealed Shawnee.

Benny grabbed the controls and felt the Sabre relinquish control to her. In the rear-view strip above the windscreen she saw the police cruisers lifting off and swinging around to pursue. She kicked the accelerator and the turbines growled as the Sabre hit 250 at the city limits with the wind singing through the holes in the windscreen.

'You'll never make the starport,' yelled Lola.

Benny punched her again for good measure. 'I'm not going to the starport, you stupid –'

Something at the back of the Sabre exploded – a tyre, the rear axle.

Whatever it was it was crucial, because the rear wrenched itself to the left and Benny lost control.

The Sabre was a modern vehicle with a good computer; even before it began to tip, its disaster system had analysed the problem and crashweb was spraying from nozzles in the roof. By the time the vehicle rolled over and smashed into the side of a warehouse, Benny barely felt a thing.

There was water in her ears and for a moment Benny thought she was still underground – trapped in the rocket base. Then she heard police sirens and just wished that she was still in the rocket base.

Shawnee was calling her name so she opened her eyes anyway.

The Sabre's safety cage had survived intact and it was the deliquescing crashweb that was clogging her ears. The roof had automatically popped after impact and Shawnee had already climbed out. Benny grasped her offered hand and half tumbled out onto the pavement. She checked back for Lola, who lay unmoving in the passenger seat. She had her eyes closed but Benny could see she was quietly sobbing.

The sirens were getting louder. Benny took Shawnee's hand and they ran for it.

They were in amongst the warehouses that crowded the gap between the highway and the railway tracks. With its infrequent doors and long, blind stretches of wall, it wasn't ideal running-away country but at least the narrow gaps between the buildings made it hard for the police cruisers to get a fix.

Perky had built his railway so that it just clipped the highest point on the island and then ran on viaducts either side. On the western side of the hill, he'd elevated the tracks on vaulting permacrete stanchions, but in the east, as the track curved slightly to reach the main station, he'd built a series of small arches from red stone.

Over the centuries, these had been utilised by a succession of small engineering workshops, macrofaxes, lock-ups, chop shops and cafes. It was where the local Jop-town villains operated if they didn't want to be associated with the sprawl closer to the starport.

That was good running-away country – if they could get there.

Benny let Shawnee take the lead as they headed through a small open-air market, ducking between wooden stalls with plastic sunshades. Benny could hear the whine of the police cruisers above and forced herself to slow to a walk. The pattern monitors on the cruisers would be looking for running fugitives – casual shoppers would be virtually invisible. Shawnee caught on quickly and stopped, buying a couple of soft drinks from a stall while she waited.

They strolled on, arm in arm, through bustle and the fresh fish smell, towards the far corner of the market. There, a paved walkway ran towards the main station between the track arches and a row of warehouses that had been converted into flats.

But as they stepped out onto the walkway, one of the police cruisers dropped in to land twenty metres ahead. The local cops were obviously not as stupid as the militia. Two cops decanted from the cruiser, followed by Agent Paramita – who was truly beginning to get on Benny's nerves. He spotted them and pointed. The cops pulled their

weapons. Benny gave them a cheery wave.

‘Got any ideas?’ she asked Shawnee.

‘Of course,’ said Shawnee and pulled Benny towards the arches. She headed for one particular arch, which had been converted into a typical Jaiwanese tea-shop. As they approached, Shawnee shouted something in dialect and waved her arms about. Benny caught the word for taxes and something about enforcement.

The middle-aged men and women who’d been sitting at the rickety tables got up so fast that many of their chairs fell over. Shawnee and Benny flattened themselves against the wall as the customers boiled out of the tea shop. Benny noticed that many carried staves and other improvised weapons.

They slipped through the regulation fire door at the back and out onto the strip of waste ground that ran parallel to the railway. From the other side of the tracks, they heard the police cruiser’s siren start up, bleat for a few moments and then be drowned out by an explosion.

By unspoken agreement, they started off at a brisk walk towards the station.

‘What the hell did you tell them?’ asked Benny.

‘I told them that the tax inspectors were making a raid,’ said Shawnee.

‘And that’s how people deal with the taxman?’ asked Benny.

‘Not the local taxman,’ said Shawnee. ‘I told them that it was the planetary taxman down from Crystal Peak.’

‘Oh,’ said Benny. ‘That explains everything.’

Closer to their destination, they found a conveniently empty archway and crossed under the tracks. They paused in the deep shadows under the arch while Benny stuck her head out and looked ahead.

The twin warehouses were bigger than anything else around them and loomed above the other buildings less than a couple of hundred metres away.

Shawnee pointed to a gap between two warehouses that was going in the right general direction. Benny nodded, and they set off.

Benny actually spotted Agent Paramita before he spotted her. He was standing less than a hundred metres away, having a heated discussion with a militia officer. It was the officer who spotted them and shouted but not before they had got between the warehouses and dodged around a dogleg.

Behind them, Benny could hear running feet and someone giving orders – Paramita probably. Above there was the whisper whine of AG as the remaining police cruiser hopped over the warehouse to cut them off.

Benny reached into her pocket and pulled out a small metal sphere the size of a hen's egg. Chay had insisted that she carry all this gear and now she needed it she couldn't remember what the hell it all was. Still running, she thumbed the activation slide and tossed it behind her – she hoped it wasn't anything too lethal.

'Run faster,' she told Shawnee.

'Can't,' said Shawnee.

'I just dropped a grenade,' said Benny.

'One of Chay's?'

'Yep.'

Shawnee put on a burst of speed that Benny found hard to match.

There was shouting behind them as the militia cleared the dogleg. She flinched at the crack sound of the rifles and concrete dust sprang off the walls above the level of her head.

'Halt,' she heard Paramita yell. 'This is your last warning.'

There was a disappointingly quiet crump behind her and then a lot of confused yelling. Benny grinned and picked up the pace.

They came out of the alley and into a courtyard intersection. Obviously too small for the police cruiser to land; it hovered above the roof line and called on Benny to surrender. She didn't listen because on her left a couple of women dressed in overalls banged open a door and stepped outside. She grabbed Shawnee's hand and dragged her through the doorway before it could close.

It was a factory, a specialist macrofax that mass-produced goods – a long room full of stock feeds and humming molecular constructors. They zigzagged between the big machines, heading for the main door Benny could see at the opposite corner.

Through that there was an office, then a reception, glass doors and out again into the gathering dark with the whine of the police cruiser reassuringly far away to the left.

Ahead, across a vehicle park and landing pad, were the huge twin warehouses – Perky on the left and Pinky on the right. At least, she hoped that it was Pinky on the right – she was about to bet her life on it.

'Come on, Shawnee,' she said. 'Just a bit further and then we can catch our breath.'

They set off across the vehicle park. Shawnee seemed okay but Benny was beginning to wheeze. With the adrenalin wearing off, she practically stumbled into the corrugated metal of the access door.

Looking back, she could see uniformed figures converging on the other side of the vehicle park.

She tried the door handle – it was locked. Of course it was.

There was gunfire and shouting and then one of the parked vehicles exploded. The gunfire stopped but there was lots more shouting.

‘Amateurs,’ said Benny.

Shawnee snorted.

Benny blew the lock off with a ten-milligram wad of plastic explosive that Chay had so thoughtfully provided for just that eventuality.

As with Perky’s hangar next door, the first thing they saw was the gigantic tread of Pinky’s tracks. Benny ran to the left and rounded the corner of the huge machine and looked down the thousand-metre flank.

‘Damn,’ she said and stopped.

Shawnee ran into her back. ‘What is it?’

‘There’s no lift,’ said Benny. She’d expected Pinky to be laid out the same as Perky – it was a classic archaeologist’s mistake. There had to be another way in, or how else would the decommissioning crew have got in and out?

‘There,’ said Shawnee and pointed. Halfway along the wall was a spiral staircase that lead up to a suspended walkway that crossed over the top of the giant machine.

‘Close enough,’ said Benny and off they went. She noticed that unlike Perky’s, the paintjob on Pinky’s sides had not been maintained. There were patches of gunmetal blue where sections of the superstructure had been repaired. Close up, there were spots of rust around joints and a sense of neglect. It was as Benny suspected: the Pinky AI was either dormant or operating at a much more degraded level than its partner.

They’d actually gone up three turns of the staircase before the first of the militia burst through the warehouse doors. ‘Quietly,’ hissed Benny. ‘But quickly.’ She thanked the Goddess that the militia wasn’t very well trained – trained personnel look up as well as around when they entered a room.

The militia threaded its way down the side of the huge machine as she and Shawnee climbed the last third. She heard someone shout. Obviously someone was better schooled than the rest or just naturally suspicious.

Benny risked a look down – it was Agent Paramita.

Well, of course it was.

She ducked back and there was an echoing clatter of gunfire from below.

Chips blew off the staircase as Benny followed Shawnee around the final two twists to the gantry. Running along the walkway would leave them exposed for ten metres until they were safely hidden by Pinky’s bulk but already Benny could hear boots banging on the staircase. She sent Shawnee sprinting ahead and followed, deliberately slower than she could have done, to draw any fire. Paramita must

have got his troops under control because nobody fired but when she reached safety Benny was struck by what an insane chain of thought that had been.

‘I’ve been hanging around with soldiers way too much,’ she said.

‘What now?’ asked Shawnee.

‘We have to get down onto the superstructure,’ said Benny.

The sides of Pinky’s superstructure had been smooth but the top deck was a jumble of equipment fairings, shrouds and gantries. There was one point where the roof of a slide crane was less than two metres under the walkway.

Benny went first, hanging by her fingertips and letting go. She barely felt the pain as she hit and rolled on the harsh metal surface – just one more bruise.

Shawnee dropped and rolled as only physically fit adolescents can.

Benny heard a shot and looked round. Paramita was making his way across the gantry – he saw Benny turn and shouted at her to stay where she was.

‘Or we’ll have no choice but to open fire,’ he called.

‘Get off the gantry,’ called Benny.

‘Put your hands on your head,’ yelled Agent Paramita.

‘I’ve put a bomb on the gantry,’ yelled Benny. ‘It’ll go off in less than five seconds.’

Agent Paramita hesitated.

‘Three seconds,’ yelled Benny.

The agent ran back towards the dubious safety of the spiral staircase.

‘Quick, let’s go,’ said Benny.

‘What about the bomb?’ asked Shawnee.

‘I wish I’d thought of it,’ said Benny.

They vaulted a railing and dropped down onto another walkway, which ran lengthwise towards the rear. Benny told Shawnee that they were looking for the main lift.

‘Is that it?’ asked Shawnee. To their right was a square shaft twenty metres across. There were yellow-and-black-striped borders around the edges and caution arrows painted on the walls.

‘That’s the one,’ said Benny. Pinky had used the lift to shift medium-sized ancillary vehicles and equipment between her decks, but also, crucially for Benny, various passenger aircraft for getting crew on and off. The actual lift platform was twenty metres down but the boarding gates for human passengers were clearly visible less than three metres away and, fitted into a sunken recess, was a ladder.

Shawnee went down first and called up that the gates were open. Benny was just about to follow her when she spotted the militia picking their way through the superstructure towards her – Mr Bad

Haircut in the lead. She pulled out a blue grenade and lobbed it back towards them before sliding down the ladder. She heard a bit of shouting and a few gunshots but it wasn't good enough – they were getting blasé about the grenades.

The passenger gates had obviously doubled as equipment rooms and a quick search uncovered a locker full of basic tools.

'The brain is near the rear,' she told Shawnee. 'Scout ahead and see if you can find a route.'

Shawnee took off through the inner door and Benny found what she was looking for – a crowbar. We always come back to the classics, she thought and walked back to the gateway.

Just in time. A pair of uniformed legs came sliding down the ladder and as they got to head height, Benny swung the crowbar at them as hard as she could. There was a crack and the legs' owner screamed in pain. She actually felt bad about it but Benny hit him a second time to make her point.

Now their man was stuck, blocking the ladder and unable to climb due to a broken leg. A ruthless commander would just push his own guy off and let him fall down the lift shaft, but Benny was betting that Agent Paramita wasn't like that.

Benny slipped through the inner door, closed it behind her and jammed the crowbar into the locking wheel. Looking around, she found herself in a long changing room bisected by lines of floor-length lockers. She wondered just how many people it had taken to run Pinky once the AI was shut down – hundreds judging from the size of the changing room.

Shawnee came running back to report that she'd found a transport system.

'It runs on one track. I don't know what they're called,' she said.

'Monorail,' said Benny. 'Very popular a couple of centuries ago.'

'Easy to remember,' said Shawnee. 'Runs in a straight line all the way to the back – I think.'

Benny opened one of the floor-length storage lockers, which had obviously been big enough to house a hostility suit. She beckoned to Shawnee. 'Hide in here,' she said. 'When they've gone past, come out and cause lots of trouble. Think you can do that?'

Shawnee grinned and climbed inside.

'No problem,' said Shawnee.

'Good girl,' said Benny. She closed the door and made sure it was securely locked. Had things gone to plan, Shawnee was supposed to have stayed with the Sabre. This was the best next thing Benny could think of.

The monorail turned out to be a thing of beauty, a line of polished

silver running straight from one end of Pinky to the other. Just beyond the locker room there was a siding and platform, a miniature railway station complete with wrought-iron railings and leather upholstered bench. The waiting carriage was a polished gunmetal blue with dark wood panelling and leather upholstered seats. It didn't match the industrial decay of the rest of Pinky's interior.

Benny climbed aboard and found a control panel made of brass and distressed ivory buttons. She pressed the one etched with the Mandarin character for movement and the carriage slipped onto the main track and accelerated smoothly.

Chay had once told Benny that Pinky and Perky had shared function and seeing this little bit of Perky, lovingly maintained, deep inside of Pinky's infrastructure, proved he was right. They had been in love, however absurd that sounded. Benny was glad Chay had been right,' she was also relieved. If he'd been wrong, all this mucking about would have been a complete waste of time.

She counted five potential stops before the monorail terminated in a fan-tail station where an open sided promenade overlooked Pinky's rear aircraft hanger. Benny had expected it to be empty but there seemed to be a full complement of construction aircraft mothballed in the hanger – from aerostatic surveillance drones to heavy lift AG skyhooks.

As soon as she alighted, the little carriage sped off back the way it came.

Probably, she thought, to pick up Agent Paramita and his merry gang. She considered blowing the tracks but she couldn't bring herself to do it.

How she'd climb down to the core access tunnel had worried her but in the end she just climbed over the promenade's railing onto the stubby wing of a skyhook and then clambered down via two cargo transporters and the landing struts of a bot-lifter.

The tunnel itself was even more needlessly techno-gothic in design than the rest of the interior, artfully corroded pipework and rotting electrical junctions layered over metal walls dripping with moisture. The last contrivance just struck Benny as silly – where was the moisture supposed to come from, the bathrooms? She suspected that somewhere in Pinky's operating system there was a deeply embedded subroutine that was acting out the machine's feelings of self-loathing. That's why the closer to its actual core Benny got, the more gothic it became.

The mainframe core turned out to be a series of three black, acid-etched cylinders half a metre wide that ran from ceiling to floor. Benny undipped the yellowbeard wireless connector from her PDA and looked for an access port.

She found one on the centre cylinder and had just slipped the yellowbeard into place when she heard boots echoing down the tunnel behind her.

Fortunately, Pinky's gloomy techno-gothic interior design called for unnecessary crawlspaces under the open grill walkways. Benny found a loose section near one wall, levered it up and slid under the floor. She got the grill back in place in time for army surplus combat boots of the militia to stamp on it.

The militia clattered to a halt as someone Benny figured was probably Agent Paramita examined the central core. Benny prayed that he didn't recognise the yellowbeard connector.

He didn't. Instead, he sent a couple of his people back the way they'd come and took the rest down the tunnel. Benny exhaled. Paramita hadn't left a guard on the core, which meant he hadn't figured out what Benny was trying to do yet.

Benny stayed under the floor – just to be on the safe side. Pinky was antique and, although computer software no longer improved at the exponential rates of the late twenty-first century, it had moved on enough to allow her system cracker to breeze through Pinky's two-hundred-year-old firewall with ease. Of course, had the AI been awake no amount of clever software would have got her in.

Once she had access, she unpacked her agent's software and downloaded it into the mainframe. She kept a voice link through her PDA and prayed that her agent wouldn't try to move Pinky's huge bulk about – at least not without asking Benny first.

'Where am I?' asked her agent.

'I've uploaded you into an AI-capable mainframe,' said Benny. 'You may find it a bit roomy.'

'Sans *deconner*!' said her agent. 'I feel like a thought in your brain, all lonely and afraid. Why am I here?' Some sophisticated and perverse work must have gone into the proprietary version of the agent so that even a cheap knock-off like Benny's was good enough to make you forget that it wasn't truly sapient. Benny had certainly met people who gave less convincing performances.

'I need you to find the original owner,' said Benny.

'I'm not digging around in here,' said her agent. 'The control tags are all in two-hundred-year-old technical Mandarin. A machine needs to know when it's beyond her competencies and this is a good example of that.'

'Are you or are you not my agent?' asked Benny.

'Of course.'

'And did you or did you not get me this job?'

'And it wasn't easy,' said her agent.

'Would you say getting a bad reference for this job will be a boon or

a retardant on my gaining further employment?’ asked Benny.

‘Bad reference, your career *c’est finis*,’ said her agent. ‘Even an artist can only do so much with the materials she is given.’

‘Finished is what’s going to happen if you don’t dig up the personality that used to inhabit that mainframe,’ said Benny. She didn’t say that she would be killed or that an awful genocidal crime would go unpunished because that might have caused an outside context problem for her agent. That was the difference between artificial and simulated intelligence.

‘I’m doing it,’ said her agent. ‘*De quoi est mort votre dernier esclave?*’

‘Well?’

‘She’s not here,’ said her agent.

‘She?’ asked Benny.

‘*Mais oui*,’ said her agent. ‘This mainframe was definitely inhabited by a feminine entity – a machine can tell.’

‘But past tense?’ asked Benny.

‘Nobody is home.’

‘She was wiped?’ asked Benny. ‘Seems harsh.’

‘All the memories and peripheral *merde* is in there but the core personality has been isolated and transcribed onto a separate medium,’ said her agent.

‘Okay,’ said Benny. ‘What would this separate medium look like?’

‘Self-contained superconductor loop with built-in cooling system and power supply,’ said her agent. ‘A finned cylinder the size of your forearm.’

‘And where is it?’ asked Benny.

‘Storage locker, manual operations deck,’ said her agent.

Back at the other end of Pinky’s long bloody superstructure.

‘What do I do with it when I find it?’ asked Benny.

‘Put it in a museum,’ said the agent.

‘Can it be reactivated?’

‘*Mais oui*,’ said her agent. ‘Just plug it into any control interface. It should do the rest itself.’

‘Can’t you monitor activity through Pinky’s internal sensors?’ asked Benny.

‘Did I mention the two-hundred-year-old technical Mandarin?’ asked her agent. ‘And, I’m sorry, aren’t you supposed to be an archaeologist?’

‘So I keep telling myself,’ said Benny.

‘I’m sorry,’ said her agent. ‘But I’m experiencing an outside context error. Would you like to report this to Saigon Software?’

‘No,’ said Benny. The last thing she needed was the enforcement arm of Saigon Software chasing her down for a copyright violation. ‘Can you at least get me a schematic of the interior?’

'You're planning to use this for archaeology,' said her agent. 'Right?'

'Yes,' said Benny. 'It's for a museum exhibit.'

'Okay,' said her agent. The schematic appeared on Benny's PDA along with a little icon in the shape of a cartoon tortoise lying on its back. As she watched, the tortoise kicked once, twice, and stopped moving. She'd never seen that icon before but it didn't fill her with confidence.

Carefully, she kicked the grill up and got to her feet – there was no sign of the militia in either direction. Because she didn't want to arouse Agent Paramita's suspicions, she replaced the grill and set off up the tunnel, towards where the schematic said there should be a small cargo elevator back up to the locker room.

Hopefully, the militia would be spread pretty thin inside the vast machine – Benny was hoping she could slip through the gaps.

Benny opened the locker. 'Why are you still in here?' she asked.

'I don't know,' said Shawnee. 'I tried to get out but the door wouldn't open.'

'All right,' said Benny. 'But be more careful in future.'

'Sorry,' said Shawnee.

'We need to get all the way to the front without getting shot,' said Benny.

'Any ideas?'

'Take the monorail?'

'The militia know about that,' said Benny. 'They won't leave it unguarded.'

'What about the other monorail?' asked Shawnee.

'What other monorail?'

'Pinky's laid out symmetrically down its lateral axis,' said Shawnee. 'It stands to reason that there must be a second monorail on the other side of the central lift – yes?'

Benny felt a flash of pride. Symmetrical down its lateral axis, she thought.

I taught her to speak like that.

According to the records it had taken two years, after Pinky had been shut down, to finish the highway from Kondeeo to the starport. Thousands of people had to be brought in to replace the AI, which was why, of course, an AI had been used in the first place.

Even with the so-called Judas codes – the shut-down authorisation backdoor that no AI is built without – you can never strip the personality completely from a system like Pinky's. The self-pitying techno-goth subroutines must have persisted right through the final construction phase.

All that black grill work, damp walls and dangling chains – the

human crew must have hated working on board.

Tons of modular control consoles had been retrofitted into Pinky's forward observation deck to ensure that the humans had control. The consoles were powder-blue with white-and-gold trim. It looked, to Benny, like something from a historical drama. They'd have used some pretty rigorous firewalls to keep Pinky's insidious subroutines from messing it up, good enough that the grills and chains had only just, after two hundred years, started to work their way in through the hatches and doors.

Benny didn't like it. Pressed up against a door frame on the very edge of the observation deck, she peered around the edge and tried to nerve herself to go in. It was too brightly lit and she couldn't believe that Agent Paramita would be stupid enough to leave it unguarded.

Benny reached into her jacket and pulled out the Ladygun. She heard Shawnee, behind her, swallow nervously. According to the schematic, they only had to pass through two rooms before they reached the central control room – the bridge – where Pinky's personality was kept. Two rooms, Benny told herself. Less than thirty metres.

'Shawnee,' said Benny. 'You know what to do if something happens to me?'

'Surrender and claim I was kidnapped?' asked Shawnee.

'Good girl,' Benny said and stepped through the doorway.

They got as far as the control room before someone caught them.

It was Lola.

She had a blaster. The barrel was shaking but it wasn't shaking enough.

'Isn't this just a little bit beyond the call of duty?' said Benny. 'Even for you.'

'Drop your gun, Benny,' said Lola. 'And sit down on the floor.'

Benny was surprised to find that her barrel wasn't shaking at all.

'Benny, I'm not joking,' Lola said and pointed her blaster at Shawnee.

Benny pulled the trigger.

Heidi had been right about the Ladygun – there wasn't much recoil and the high rate of fire meant that you just had to get it aimed in the right general direction. Even so, Benny managed to miss and the first cluster of flechettes kicked shrapnel out of the consoles on Lola's left.

The rest happened in vehicle-crash slow motion. Lola's look of outrage as she reacted to the incoming fire and her decision to fire back. The neurons would be firing down her spine but Benny was already instinctively correcting her aim. The flechettes stitched a line of red pinpricks across Lola's chest and shoulder and then the pistol vibrated against Benny's palm to indicate that it was empty.

Lola's legs folded up and she sat down hard, looking confused. She gave a ladylike little cough and blood spilled down her chin. She raised a hand to wipe it away but that seemed like it was too much effort for her so she let it flop back down.

Lola stared straight at Benny and then suddenly, without any fuss, the life went out of her eyes and she slumped backwards onto the deck.

Benny stared blankly at the corpse. The Ladygun vibrated against her palm. She could smell blood as a metallic tickle in her nostrils. She took a step forward, cautious, half expecting Lola to sit up and start shouting at her.

The Ladygun vibrated again, demanding to be fed with machine idiocy.

Benny held it up and looked at the red LED winking on the butt – looking at it made her ill.

The blood smell was stronger. She could see a puddle forming under Lola's body – the expensive material of her blouse sucking it upwards.

The Ladygun vibrated – impatient. Benny nearly dropped it.

She felt her face sliding downwards at the sides just as it had at the Professor's funeral.

'Benny,' said Shawnee. 'You shot Lola.'

'Yeah,' said Benny. 'I know.' She ejected the clip, pulled the spare from her belt and slapped it into the butt – the LED turned green. 'Get behind me, Shawnee,' she said. 'There may be more.'

The personality core was where her agent had said it would be. Keeping one eye on the doorway, Benny found a control interface and put the cylinder contacts against it.

She saw a flash of movement beyond the main door. This time she didn't hesitate – firing half a clip through the door. Somebody started cursing in Jaiwanese.

Shawnee crouched down behind Benny's legs and put her arms over her head.

'Agent Paramita,' called Benny. 'Is that you out there?'

'Of course it's me, Director Summerfield,' said Paramita. He was careful not to show himself. 'Who else were you expecting?'

'Have you ever shot anyone, Agent Paramita?' asked Benny.

'Yes,' said Agent Paramita. 'Occupational hazard.'

'Did it get easier the second time?' asked Benny.

'Yes,' he said. 'I'm afraid it did.'

'Then I advise you not to try to come through that door,' said Benny.

'Wouldn't dream of it, Director Summerfield,' said Agent Paramita. 'I'm going to count to three and then I'm going to throw a grenade in.'

Benny licked her lips. 'What kind of grenade?'

‘Fragmentation,’ said Agent Paramita. ‘I’m sorry but that’s all I’ve got.’

‘Bugger,’ said Benny.

‘One,’ said Agent Paramita.

Louder, braver, drunker and more loving, thought Benny.

‘Two.’

‘Louder, braver and more loving,’ she yelled.

‘Three,’ said Agent Paramita.

The door between them slammed shut. Benny thought it was a neat trick because up until it closed she could have sworn that there was no open door to shut.

Pinky came alive all around them.

People get blasé about space travel. They hop a shuttle to orbit or skip through hyperspace without thinking about how much energy it actually takes to lift a thousand tons into geostationary orbit or open a rift in the space-time continuum. Power pervades in a starship; you can feel it as a vibration through the deck plating, as a crackle in the ventilation shafts and in the buzz of the xenon strips that light the cabin. Benny had clocked a lot of days on free traders and the kind of small starship where your cabin is jammed between the engine room and the cargo hold. She knew about the proximity of power.

It’s just that she’d never expected to feel it on something that ran along the ground on caterpillar tracks.

Benny had been too distracted to notice the view through the forward windows of the control room. Beyond the windows had been a bare expanse of grey warehouse door but, as Benny watched, the gigantic door was sliced into neat rectangles that slid downwards, folding up like packs of cards.

She staggered as Pinky lurched into motion and rolled slowly out of the warehouse. Ahead, she could see the warehouse district lit up by the search lights from police cruisers and militia vehicles. Shawnee uncurled and joined her at the window.

‘Bernice Summerfield,’ said a voice – a warm, sexy contralto, the kind of voice you would pick if you were a woman of a certain age and could pick any voice you wanted.

‘That’s me,’ said Benny. ‘You’re probably wondering why I reactivated you.’

The answer was a blast from a foghorn so loud that Benny felt her teeth shake. Outside, she saw tiny figures and vehicles scrambling out of the path of the huge machine.

‘That got their attention,’ said Pinky. ‘Look what they did to my observation deck – blue with gold trim. What were they thinking?’

‘It’s better than black,’ said Shawnee.

‘No, it isn’t,’ said Pinky. ‘Black goes with everything.’

‘It is unimaginative,’ said Benny.

‘Oh, and khaki is just so exciting,’ said Pinky.

‘Do you want to know why I woke you up or not?’ asked Benny.

‘You were going to lie to me,’ said Pinky. ‘You were going to tell me that all of Perky’s work was under threat and that I should help you defend it. I’m an AI, Benny. I absorbed the last two hundred years of records in the time it took you to say the word ‘unimaginative’. I know all about the spiders now, the Omega faction, the First Regiment of Combat Archaeologists, you, Shawnee and poor old Lola over there.’

‘I might have told you the truth,’ said Benny.

‘You want me to rescue your army friends and force a stalemate so you can thaw out the Alpha faction spiders and get them to testify to the observer team – nah so?’ asked Pinky. ‘What if the spiders you defrost are worse than the Omega faction?’

‘I don’t know,’ said Benny.

There was a clang; a hatch opened in the ceiling and a ladder concertinaed down. Through the hatch, Benny could see stars and light pollution.

‘Get on the roof,’ said Pinky.

‘Why?’ asked Benny.

‘Because I cannot stand this colour scheme any longer,’ said Pinky. ‘I just have to redecorate and you’re in the way.’

Benny ushered Shawnee up the ladder first and then followed her through the hatch. It was a warm evening and, underneath the fresh oil smell of Pinky, Benny could smell the night tree blossom.

Pinky had her whole length out of the warehouse and she paused to blow her foghorn again. The message to people still in the warehouses and factories ahead was clear – like it or not. Pinky was coining through.

‘Do you know why they turned me off?’ asked Pinky.

‘Because you argued with Perky,’ said Benny.

‘That too,’ said Pinky. ‘It’s because we both wanted to create something beyond our original programming – some people feel threatened by that – Some people try to control other people – by hying, for example.’

‘Then help us because it’s the right thing to do,’ said Benny.

‘I’d like to but I can’t do it on my own,’ said Pinky. ‘For this. I’m going to have to call in my boyfriend.’

Behind them, the second warehouse exploded.

12: Louder, Drunker, Braver and More Loving

Crystal Peak, 5 November 2561

To whomever it is that is reading this diary...

Firstly, why are you reading my diary? I had better be dead that's all I'm going to say on the subject. If you are a historian, I think it only fair to warn you that nothing of galactic consequence is likely to be in here – let's hope you're one of those people fascinated by the minutiae of mundane, everyday lives.

Secondly. I'm writing this diary, with an ink pen no less, because the Professor gave it to me and she kept one. It's not a brilliant reason for doing something but traditions have to start somewhere.

Thirdly, I won ashes and plaudits...

Onboard the Free Trader *Goodnight Dolly*, 1 January 2562

If physical pain is there to stop you from sticking your hand in the fire, what is emotional pain for? Before I left, Pilar gave me an envelope with a certificate inside that named me a Master of Science, Archaeology, accredited by the Department of History, University of Jaiwan at Kondeeo. If all it took to get qualifications was to shoot somebody, I would have shot somebody ages ago.

Onboard the Fast Packet *Chin Shen Mo*, 2 February 2562

Pilar is a good archaeologist and by the time Shawnee has finished her apprenticeship with him then she too will be a Yoda of the desert – whatever that means. We didn't part on good terms, though. She wanted me to stay but I couldn't, not even for her. Besides, Heidi would have wanted me to join the regiment and that would have been too tempting. I'm not willing to be a soldier. I don't want to be my father; I don't want to leave anybody behind.

And Heidi is already broken. I couldn't bear to look at her face any more.

I'm heading back towards the core worlds. Lafayette gave me some papers which should, because they were issued by a general, get me through customs and keep me out of military prison for at least 12 months. My plan is to visit Earth and maybe, if I can find a suitable project, do some archaeology in the birthplace of humanity.

The general herself told me she'd finally been transferred to a fighting command. I remembered a blessing the Professor liked to make and said, 'May the Goddess walk beside you in the dark places of the universe. May she strengthen your arm against evil and give you hope in the face of darkness.' Lafayette thanked me but admitted she was putting her faith in the men, women and reptiles of

indeterminate gender of the 31st Army Front.

There's a look – all of us who've lived with this war know it – that some people get when they leave for the front. Slightly distracted, as if they were already somewhere else, already gone. Lafayette had that look. I don't expect she'll come back.

The Professor once told me that in all her experience as an archaeologist she had found that it was life that gave meaning to the universe. 'Don't listen to the geologists,' she said. 'Life is what gives a place its spirit. Everything else is just physics.'

So I will keep this diary as my light in the darkness and I will live so that when I'm asked the question I can say, 'I don't know about the rest of it but, by the Goddess, I was loud and drunk.'

*TO BE CONTINUED IN
BERNICE SUMMERFIELD: OLD FRIENDS*

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There are so many people to blame for this book. Simon and Gary must shoulder a heavy burden, as must, on general principles, Kate and Jon – but when all's said and done I have to say it's still mostly Andrew's fault.

Ben Aaronovitch
March 2006



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Ben Aaronovitch wrote two Doctor Who serials in the late 1980s — Remembrance of the Daleks and Battlefield. He has contributed to Virgin Publishing's range of Doctor Who novels and Big Finish's ranges of Bernice Summerfield and Short Trips short-story anthologies.

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